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THOUGHTS ON CONTAGION. By THOMAS MASTERMAN WINTERBOTTOM, M.D.

(Continued from p. 24.)

In the list of contagious diseases, we find *phthisis pulmonalis*,* though not generally acknowledged as such in this country; yet we meet occasionally with such melancholy instances of the disease following close attendance upon a near relative or friend, even in those not apparently disposed to it, as must excite considerable apprehension on the subject. No prudent physician would allow a young and healthy person to sleep in the same room with a patient in an advanced stage of phthisis, where it can be avoided; and certainly he would not permit the same bed to be used at any period of the disease. In the south of Europe it is universally dreaded; and at Naples a public *ordonnance*† commands the clothes, and even the furniture, used by such as have died of phthisis, to be burnt on the sea-shore. An infringement of this order is punishable by confinement in prison, or condemnation to the galleys.‡

* Grundzuge zu einer Pathologie der ansteckenden Krankheiten, von Dr. Fr. Chr. Bach, a very interesting work, containing many curious and important facts; and of which it may be sufficient to remark, that it is ushered in by a recommendatory preface from the learned Kurt Sprengel.

† Qui tabe pulmonari laborant, consanguineos suos facile inficiunt si cum illis consuetudinem habeant.—(Ramazzini *op. omnia*, 791.) Manet tamen de contagio suspectus morbus phthisis pulmonalis quod evidentia exempla, quorum ingentem possem adferre catalogum, demonstrant.—(Hildenbrand, *Ratio Medendi*, i. 159.)

‡ Istruzione al pubblico sul contagio della Tisichezza, scritta per sovrano commando della facolta medica del supremo magistrato di Sanita di Napoli. Napoli, 1782. See also Zimmermann von der Erfahrung, p. 389. Similar ideas prevailed also in Germany, as may be observed in the work entitled Goettingen, geschildert von Dr. K. F. H. Marx, p. 325, Note 6. Jos. Frank, *Praxeos medicæ Uni-*

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Yaws, (*variola magna* of the middle ages? Safathi of the Arabians; termed *Gatoo* by the Africans in the Rio Volta, according to Dr. Isert, in his *Reise nach Guinea*) is another disease of the same class happily unknown in Europe. This disease is noticed by Piso under the title of *Lues Indica*, (*Historia Naturalis et Medica Indiæ Orient.* p. 43.) He remarks, "Sicuti citius sanatur a solis remediis indigenis; ita citius contaminat, quam illa quæ lues Gallica vulgo vocatur et ad incolas hac deferatur." The natives cure it, he says, with decoctions of sarsaparilla, and caaroba, sassafras, or guaicum. Bontius* ascribes this disease to the too abundant use of cakes made of sago, and the immoderate drinking of Palm wine, but certainly without any foundation. Schilling† blamed the use of an agreeable and innocent fruit called Banana. In a good practical paper on yaws inserted in Meckel's *Neues Archiv. der Pract. Arzneykunde*, and in Richter's *Chirurg. Bibliothek*, Vol. xii. 340, by Læflier, that author remarks, that the blacks are more subject to be infected than whites, owing to their bodies being less defended by clothes. He recommends the sarsaparilla; and to promote the eruption of the pustules, he advises small doses of ipecacuan, camphor, warm-baths, frictions, and blisters applied to different parts. Under the indigenous name *Boisie*, he describes, not yaws, but the incipient stage of elephantiasis. In noticing this disease, yaws, Dr. Bach has committed a slight error, in common with some other writers of deserved reputation, by asserting that it is endemial in the whole of Africa, Amboyna, and the Molucca Islands. But as yaws is communicated in the same way as the venereal disease or the itch, it is just as much endemial in Africa, as lues or itch is in this country. Neither are negroes more disposed to this disease than whites. The same exposure

versæ Præcepta, Vol. ii. p. 509. Burserii *Instit. Med. Pract.* Vol. iv. p. 54.

* Hist. Natur. Indiæ Oriental, cap. xix. de Tophis gummatis, et ulcerationibus endemiis in Insula Amboyna et Moluccis præcipue; quas nostrates d'Amboynse Pocken vocant.

† De Morbo in Europa pene ignoto, quem Americani vocant yaws.

produces the same effects in the European as in the Negro.

Though it is said that pains of the bones are among the first symptoms of yaws, this is not constant; they are rather sequelæ, and may truly be called *Dolores Osteocopi*.^{*} The precursory pains nearly resemble those of febrile complaints, particularly exanthemata; but as this disease is frequently passed through in childhood, when it is milder in its symptoms, the precise mode of attack is less noticed. Another very common error, not unfrequently committed, is in making a distinction between yaws and pians,[†] as if different diseases, though only stages of the same malady. Neither do yaws ever change, as asserted by some, into the *mal rouge de Cayenne*, so named from the copper-coloured spots which appear on the skin devoid of feeling, and are considered as one of the primary symptoms of tubercular lepra. Dr. Sprin-
gel[‡] observes, "a remarkable kind of leprosy was known in the middle ages, the *Nakha* of Abelkasem, or the *Alopecia* of Vitalis de Furno and others. Large red vesicles or tubercles appeared in the face; the gums swelled and bled; and everywhere spongy bleeding ulcers broke out, which destroyed skin, flesh, and bones. The *mal rouge* of Cayenne is a remnant of this disease." Bajon refers the *mal rouge* not to elephantiasis, but to the pians in its most obstinate form, which he also distinguishes from yaws. But it is clear from the great deformity of the face, occasioned by the prodigious thickening of the skin, the tubercles of the lips, ears, &c. that it belongs to elephantiasis, and to that variety of it called leontiasis. The radesyge, spedalskhed, of Norway, liktraa of Iceland, and the disease of the Crimea, acknowledge a similar origin.[§] Professor Haase distinguishes between yaws, *sycosis*, and pians, *thymiosis*, which latter he

considers to be a more obstinate disease, and more localised than yaws. Although he quotes no authority, he asserts that the pians are originally endemic only in one district on the coast of Guinea, the kingdom of Sanguin, which I presume is meant for a small portion of coast south of Sierra Leone, and bordering on what is called the *Kroo* coast.^{*} The disease of yaws is still imperfectly known, not owing to want of opportunities for observation, but perhaps to the loathsomeness of the complaint, and the risk of watching it too narrowly. To aid the inquiries of future observers, I subjoin some queries given to me by my learned and excellent friend, the late Dr. Willan. "Is the yaw pustule a small hard knot inflamed around, and slowly suppurating? How long is it in breaking? Does the fungous flesh in rising force off the primary crust or slough? If it does not itself suppurate, how can it be covered with a slough or scab? Does the primary ulceration surround it, and communicate the crust all over it? But how can it reach the top of the fungus? Is it through pores in its substance? What part does the disease appear upon? and which are generally first affected? Do any symptoms of general disorder precede or attend its eruption? What are the symptoms or sequelæ when it proves fatal? Does it affect the throat, nose, or lips? Is there any specific time in which a single pustule goes through its course? Is there any difference of appearances in children and adults? At what age is an infant ever infected?"

As inoculation has been often practised with success, and found to communicate a milder and more tractable disease, a few well narrated cases would no doubt be very satisfactory.

The intrepid African traveller, Hornemann, whose untimely fate I fear we must now deplore, notices the venereal disease as occurring only once during life in the same subject, which undoubtedly refers to yaws. Brown also, in his travels in Africa, says, "those who have been once infected and fully cured,

* Conradi Grundriss d. bes. Pathol. u. Therapie, ii. 826, is wrong in asserting that these pains affect only Negroes, and not Europeans. The symptoms are the same in both, though the Negro is most likely to suffer in consequence of neglect or improper treatment. I knew a European in Africa, a slave trader, who was dreadfully tormented with pains of the bones, in consequence of yaws. Bertrandi likewise, in his excellent work on contagious disease, is wrong in asserting, page 73, that Europeans are more difficultly affected with yaws than Negroes; and still more in affirming, p. 105, that a man, being infected with yaws, prevents the disease from breaking out by removing to a temperate climate. In this respect no difference occurs between yaws and syphilis.

† Frambæsia Guinensis, et Frambæsia Americana, Sauvages, Ed. Daniel, v. 205.

‡ Handbuch der Pathologie, iii. 577. Harless, Handbuch d. aerzt. Klinik. ii. 507.

§ Consult Sprengel Beytr. z. Gesch. d. Medizin. Jos. Frank Prax. Med. Universæ Præcepta.

* Haas Ueber die Erkenntn. u. cur. d. Chron. Krankh. Vol. iii. p. 386. Dr. Ludford also, in a very good essay on this subject, (Diss. Inaug. de Frambæsia, Edin. 1791,) entertains the same strange opinion of yaws being *endemic* only at Sanguin. "In ista Africa regione, quæ *Gangines* vocatur, *endemicæ* grassari videtur, omnemque ætatem, potissimum vero infantilem, puerilem, ac juvenilem, adoritur.—Contagium a Ganginibus in omnes Indiæ occidentalis insulas, et in Americam, in quibus abmodum frequens est. invec-tum est."—"In that part of Africa called *Gangines* (Sanguin?) it appears to prevail endemically, affecting every age, but chiefly infancy and youth. The contagion has spread from the *Gangines* to all the West India Islands and America, where it is extremely common."—Conradi Pathologie und Therapie, Vol. i. p. 821.

are, it is said, in no fear of reinfection." This he describes as lues, but it evidently belongs to yaws.

Professor Sprengel, in a very important Essay* on the probable origin of syphilis on the south western coast of Africa, endeavours to prove that yaws was known during the middle ages, and often confounded with symptoms of lues,—an opinion entertained by Haller, who says, "omnibus computatis, lues venerea videtur degeneratio esse morbi *yaws* Americae et insularum potissimum Antillarum indigeni in iis insulis etiam nunc superstis, qui pariter tubercula per universum corpus exigit."† Numerous objections offer themselves to this opinion; neither is it at all probable, that a cyclic disease, like yaws, which runs a certain course, and admits of a natural cure, can be commuted into a perennial disease like lues, which terminates only with the destruction of the subject it attacks. One of the learned professor's arguments is, that the ancients might be supposed to be acquainted with yaws, if we could only prove that they had any communication with the south-west coast of Africa, where he supposes yaws was endemic.‡ The Carthaginian Admiral Hanno, who lived in the beginning of the fifth century before our era, probably during the reigns of the first Xerxes and Darius Hystaspes, is the first whom we know to have discovered this part of the coast. He planted a Punic colony in the Island of Arguin, and advanced as far as Cape Palmas, in the kingdom of Sanguin, and perhaps as far as Cape Three Points. We have, indeed, no account of any trade with this part until the fifteenth century, when Pedro de Cintra, in 1462, discovered Cape Mesurado. But long before this period it might have been known to the Greeks, Romans, and Arabians, by the trade carried on with the western coast, through the great marts in the

midst of Africa, Moorzook, Timbuctoo, Galam, Kaschna, &c. Sprengel next considers the early appearances of lues, which often showed itself as an epidemic, (in which, if he be correct, it totally differs from yaws,) independent of coition, and often proved speedily fatal on the first attack. In process of time, since 1497, it has become more mild, showing itself rather as a cutaneous disease; until finally, in 1520, being combined with gonorrhœa, it became much less dangerous. From the number of quotations given, one may be selected as particularly curious, from Scanarolus, to prove that lues infected without coition, though little consonant with our present creed. "Nos tamen vidimus et omnes hoc sciunt, quod et plurimi, atque puellæ virgines, atque etiam senes, qui nunquam coitum tentaverant, cum hoc morbo correpti sunt, primum in pudendis cæperunt pati." The oldest writers compared the disease with small-pox, or *Herpes miliaris*, or safathi,* sometimes with the berry-like fungi, frambœsia, or with leprosy itself. Ali ben Abbas, (son of Abbas) commonly called Hali Abbas, who, in the tenth century, was physician to Mostanser, khalif of Bagdad, describes the safathi as a malignant ulcer, covered with a thick tenacious matter, of an infectious nature, which chiefly appears about the back and face like large pocks, equally contagious with them, but not accompanied with so violent a fever. The disease, he adds, occurs frequently in Africa and India, and terminates in violent pains of the bones. It produces also a malignant ulcer on the soles of the feet, which he calls *vena saniosa*, but which Sprengel supposes to be what is termed crab yaws. This he considers as the first trace of yaws which we have on record, though he thinks it is still more clearly described by a writer who flourished a short time after Ali, (born about sixteen years before Ali's death,) the celebrated *Scheikh Reyes*, (prince of physicians,) Ebn Sina, commonly called Avicenna. He describes the disease as a collection of ulcerous or varioloid pustules, itchy, but rather attended with pains of the bones, and with no violent degree of fever. When these pustules are moist, he calls them by a Persian word signifying a *fat root*, which excites a suspicion of the lardaceous base of the ulcer. A very

* Beytrage zur Gesch. der Medicin. 3 st.

† In support of the opinion that yaws and lues were somehow intermingled, or that lues is an hybrid disease, and arose from a mixture of yaws and leprosy, Professor Sprengel remarks, that the leprosy was very prevalent among the Spanish Jews, who were banished from Spain in 1492 into Africa, where they might become infected also with yaws; for it appears that these unfortunate people, among other equally unfounded charges, were also accused of spreading the venereal disease. The hypothesis of Harless, that the yellow fever originated from a union of the endemial or tropical fever, with yaws, is quite untenable.

‡ Instead of confining the disease to an insignificant corner of Africa, Sanguin, for which no good authority can be adduced, if the learned Professor had asserted, what is at least a very probable conjecture, and which cannot be refuted, that yaws occurred at an early period in all parts of Africa, though not endemially, he would have succeeded better in his ingenious speculation.

* Safathi was originally applied to the *αζωρες* of the Greeks, and was first used by Jahiah ebn Serapion in the ninth century; but Professor Sprengel, who derives safathi from a Hebrew root, signifying hill or rock, rather understands it as defined by the Persian writers, Ali Abbas and Ebn Sina, and thinks Gentilis da Foligno must hint at this, when noticing *variolas magnas chronicas*, in Africa without fever. Lues appeared originally in the form of this safathi, or *var. magna*; Le Maire names them *gros Boutons sans fleur*; in Germany *groote bladder*; and hence the French name *la grande verole*.—Beytrage zur Geschichte der Medicin. 1. B. 3a. stuck.

large pustule or *mama yaw*,* he names from its elevation, or resemblance to unripe dates. Another appearance of the disease, which occurs on the soles of the feet, *crab yaws*, he compares to the fruit of the turpentine tree, describing it as a callous ulcer with fungous excrescences and varicose distention of the veins.

Although the two diseases, yaws and lues, be essentially distinct, there is a variety of the latter known little more than thirty years ago, called Scherlievo,† which in its strawberry-like fungi bears some resemblance to yaws. *Frambæsia Illyrica* or the Scherlievo disease, is so called from the place in Italy where it first attracted notice. The natives of Scherlievo maintain that the disease was introduced there in 1790 by four soldiers and two women returning from the war in Turkey. From this place it spread along the coast, from Fiume and Buccari as far as Novi, until the year 1800, when it fixed the attention of the Austrian government. The disease is very common in Illyria, where it always arises from infection, though seldom from coition. The mouth and throat are first affected with slight inflammation, succeeded by hoarseness; small pustules like aphthæ appear on the inflamed parts, which break and pour out a corrosive ichor, leaving round ash-coloured ulcers, with hard, dark red edges, which in time destroy the neighbouring spongy bones. The pain in swallowing is trifling, but the inflammation often spreads to the larynx, occasioning *phthisis laryngea*. Sometimes pains of the bones precede, which diminish or disappear when a pustular eruption shows itself of copper-coloured spots, or sometimes of a violet colour, that discharge a fluid forming crusts, which, when they fall off, leave a yellow mark or ulcer. Tubercles also appear, which pour out a viscid matter forming crusts. Occasionally,

* The *mama yaw* is a pustule or sore which has increased more than the others, corroding the surrounding parts, from which a livid kind of fungus arises, not painful, but resisting for a time every application. Nielen (*Verhandlingente Haarlem, deel xix. st. 2. p. 135, in sammlung auserlesener abhandl. z. gebr. pract. aerzte.*) observes, this kind of yaw (*lues mater*) always appears on the part where the disease has been received, whether by wound or ulcer,—an assertion which appears to me very doubtful. This writer is incorrect in asserting yaws to be hereditary, and that only such *whites* contract the disease, without infection, whose parents have previously had it. *Harless Handbuch der aerztlichen Klinik*, iii. p. 507. 1826.

The *Medicinisch-Chirurg. Zeitung* for 1821 gives a very copious and satisfactory account of this disease.

† *Giornale di Medicina*, 1812, par Brera—*Nuovi Comment. di Medicina*, par Brera—*Saggio sulla Malattia del distretto di Scherlievo*, di Claudio Ant. Bovi. *Richter diè speciale Therapie*, vi. 414.

fungi arise like strawberries or mulberries, *carnes luxuriantes moriformes*, which suppurate and spread, destroying the neighbouring bones. These are chiefly seated on the hairy part of the head, forehead, ears, pudenda, abdomen, and inside of the thighs and legs. Condylomata occur round the anus. There is tumour of the scrotum or *mons veneris*, and ill conditioned ulcers arise on the soles of the feet. The disease yields to a mercurial treatment, in which the corrosive sublimate shows itself most active in arresting the progress of the disease, though it is said not to be permanently successful. The Scherlievo disease differs from lues, by remaining stationary for several years when left to itself, or even admitting of a natural cure. From sибbens the scherlievo disease differs, in being less destructive to the parts affected, and not so much attended with glandular affections. Dr. Ludford is inclined to consider yaws as allied to *sibbens* or *sivvens*,—a disease met with in the northern parts of Scotland, (*sivven* being in the Highlands a common name for a wild rasp.—*Gilchrist, Ed. Lit. and Phys. Essays*, iii. 163.) which he terms *Frambæsia Cromwelliana*, because it is said to have been introduced by Cromwell's army into the Highlands. But Dr. Ludford contradicts himself; for in his accurate diagnosis, he sufficiently points out the total difference of the two diseases. Besides, it may be asked, from whence did the Protector's army bring the disease?

The frequent mention of plague and pestilence by all old historians might excite surprise, did we not reflect that every disease, especially if accompanied with fever, which proved very commonly fatal, was termed plague. In Gruner's* learned work we have many curious instances of epidemic diseases, explained according to the prevailing superstition of the times. It is probable many of these alarming epidemics were merely instances of typhus; and Hildenbrand accords with Haller in considering the Athenian plague of Thucydides to have been only an anomalous and very malignant typhus, [*u. d. ansteck. Typhus*, p. 22.] Notwithstanding the number of authors who have written upon this subject, and Ploucquet, in his laborious† work, gives a list of more than 800 writers upon plague, no certain diagnostic of the disease has yet been pointed out. Hence the justice of the remark of Chenot, “*Omne quod habemus signum in serie et congerie præcipuorum saltem symptomatum consistit, quæ simul non existunt, nec eadem in singulis in-*

* *Nosologia historica ex monumentis mediæ ævi lecta*, Jena, 1795. The cure performed by the Doctor sent from Vienna (Weyne,) by hanging his royal patient up by the heels, with his breast supported by a cushion on the ground, would not probably be recommended by an archiater of the present day. P. 129.

† *Literatura Medica Digesta*. Tubingæ, 1808.

veniuntur.”* † Hence, in every instance, at the commencement of an epidemic plague, we find violent disputes have arisen respecting the nature of the disease, which, for the most part, was considered as some variety of common fever occasioned by atmospheric distemperature. Of this, many instances are recorded. Canestrini notices the plague which broke out on the island of Bodrogh in Hungary in 1770. A physician who pointed it out to the magistracy, was rewarded for his acumen by a threat of the gallows, if he persisted in his assertion; another, more supple in his conduct, termed it an epidemic scurvy, until seventeen persons dying in one house proved the correctness of the first opinion. The bitterness of party in persecuting men for their opinions is well shown in the instance of Thomasius, who was driven from Leipsig to Halle, where, in 1692, he fortunately proved instrumental in establishing that justly celebrated university. But the most striking instance of this disagreement in medical diagnosis is recorded in the history of the plague at Venice in 1576.‡ The two celebrated professors Mercurialis and Capo di Vacca, being sent for from Padua, pronounced most decidedly that it was not plague; but the mortality increasing in an alarming degree, the two professors were glad to escape as privately as possible to avoid the fury of the mob. The same occurred in the plague at Marseilles in

* Tractatus de Peste. Vindob. 1766, p. 91.

† Pestis diagnosis maxime ex ejus contagio haurienda. Dr. Wolmar, however, notices streaks of blood in the inner canthus of the eyes, which he considers as diagnostic of the disease, and by attending to which, he was enabled, in some obscure cases, to foretel the disease. The “lingua quasi calce obducta” has been very generally remarked.

‡ Muratori, relating this circumstance in a tone rather sarcastic, says, “Chiamati colà da Padova Girolamo Mercuriale e Girolamo Capodivacca, pubblici lettori, e gran di *Barbasori* dell’ arte medica, a spada tratta sostennero, quella essere influenza epidemica, e non vero contagio, contro il parere de’ medici Veneziani. Cagion fu il credito di amendue, che non si prendessero le più rigorose precauzioni contra di così orrendo malore, finché si giunse a vedere tutta piena di morti quella gran città. Se scornati non fuggivano que’ due satrapi della medicina, fu creduto, che il popolo li avrebbe sacrificati al loro furore.” *Annali d’Italia*, Vol. xv. p. 8. On this subject some doubt is entertained by Sprengel, *Gesch. der Arzneik.* 3 th. p. 131. A contemporary writer, Gio. Battista Susio, says the above professors denied it was a pestilence, (che affligena alcuni pochi in Venetia;) and Susio also declared that it did not merit that name, because it did not afflict many at the same time, nor persons of all ranks. p. 8. Libro secondo del conoscere la pestilenza. In Brescia, 1579. Waldschmidt de sing. Pestis Holsaticæ, Haller Disputationes, v. 549.

1720, when the professors of Montpellier sent there declared that fatal disease was not plague. In the above instances, and in numerous others, the disease was regarded as common contagious fever, and treated as such; until the appearance of bubos or petechiæ, and an increased mortality, induced them to apply to it the name of plague. One of the best definitions of an early date which I have seen of plague is given by Bassianus* Landus: “Pestis nil aliud est quam lues grassans in multos, aut in una, aut in pluribus regionibus, cum diris symptomatibus, juncta cum febre pestilenti, aut hecticâ, aut putrida.” Speaking of the petechiæ which occurred, he remarks, “illa exanthemata siue impetigines non sunt semper ejusdem coloris, nec semper manifesto apparent.” A contemporary writer, Francesco Frigimelega,† describing the same plague, which he asserted always arose from contagion, defines a pestilential disease to be one which almost always proves fatal, and is contagious.‡ To guard against the contagion, he adds, “non si appropinquino a lo ammalato se non quando bisogna, et non rifiarino incognito. Guardinsi anchora dalli loro Panni.” Such was the general terror inspired by this disease, that every peculiar appearance in the atmosphere, or any natural occurrence different from the usual course of things, was considered as an infallible indication of a future plague. Diemerbroek, in his learned and interesting work, gives many curious instances, which were considered by the terrified multitude as indisputable warnings. None were, however, more extravagant than what seems to have been regarded by them as a species of second sight among children; undoubtedly a proof of a strong phlegmatic temperament. Gallus Tridentinus observes: “Pueri ab intelligentia non errante ducti, presbyterorum modo cantant, alios vivos pueros sepelire simulant, hanc universam animantibus perniciem futuram præsagientes.” Mercurialis gives a similar account, and Forestus remarked a like presage to announce the plague at Delft: “Pueri antea colludentes, scrobes, instar sepulchrorum faciebant, et feretra in humeris, ut vespillones protabant; et quam hæc et similia ab aliis pro portentis, ab aliis pro nugis habeantur, tamen sævissima pestis subsecuta est.” The learned author, Diemerbroek, firmly believed that children, engaged in these plays before a certain house, indicated the death of three children from small-pox, which occurred in it about two months afterwards. Diemerbroek, though influenced by the superstitions of his age, was a man of great learning and unaffected piety,

* De origine et causa Pestis Patauinæ, anni 1555, published during that year at Venice.

† Fr. Frigimelega, Consiglio sopra la Pestilenza in Padoua dell’ anno 1555.

‡ Pestilenti chiamo quelle che ammazzano et danno la morte quasi sempre, e sono contagiose. Conradi, Handbuch d. allg. Pathologie, 57.

and acted as a truly Christian physician towards his townsmen during that dreadful plague which he describes so well, and for which he was rewarded with cool indifference by his sordid countrymen. But he has left to posterity his feelings on this subject.*

Among the various contradictory opinions respecting plague, none appears more strange than that doubts should exist with regard to its contagious nature; yet these doubts have often been entertained by men of undoubted talent, and, it must be confessed, that many strong arguments have been alleged to corroborate their opinion. Though we cannot deny the contagion of plague, yet it seems fully proved that the danger of its communication is much less than has been apprehended. Larrey† says, when the disease is slight, there is little or no danger either in touching the patient's pulse, "du bout des doigts;" or in opening bubos or carbuncles, or touching small portions of his body or his clothes, "par de petites surfaces;" nor even in going into his apartment if well ventilated. Dr. L. Frank,‡ a contagionist, in a work on this subject which deserves to be seriously read, gives many striking instances of the sudden disappearance and occasional inertness of plague contagion. Among others, he observes that the French army arrived at Cairo in 1798, only thirty days after the cessation of a severe plague; and though in the hospitals the beds, clothes, &c. of the Mamalukes were made use of, not a single case of plague occurred during that year. Upon this subject Dr. Wolmar§ informs us, "that about the summer solstice the south winds and sirocco, which had prevailed during the time of the plague, ceased, and were succeeded by north and north-east winds. A strong dew fell every night, and the disease disappeared. The Europeans, many Christian merchants, and the Copts, now opened again their inclosures, and many days were passed merely in visiting. The Turks also visited, to congratulate each other, and to renew their commercial ties. The Europeans and native Christians paid visits of condolence to the Turks in their houses, on which occasion they seated themselves without dread upon sofas covered with cotton, which but a few days before would have infallibly communicated to them the plague, though at this time such an occurrence was not heard of, — a sufficient proof how great the influence of the *atmosphere* is in this disease." Moreover, soon after the battle of the Pyramids, Bonaparte and his staff occupied the quarters of Murad Bey, in which, a short time previously, sixty men had died of plague, yet none of the French suffered from contagion. Pugnet informs us also that Bonaparte, to diminish the fears of the soldiers, touched bodies infected

with plague. Upon this subject Desgenettes more particularly says, "Se trouvant (le general en chef) dans une chambre étroite et très encombrée, il aida à soulever le cadavre hideux d'un soldat dont les habits en lambeaux étoient souillés par l'ouverture d'un bubon abscedé."*

The sudden disappearance of plague in Turkey and Egypt is a fact acknowledged by all parties, and has given rise to a saying among the Franks, *Saint Jean venir, Gandoufandur*. The learned Professor Omodei,† one of the most zealous defenders of contagion, does not deny the above fact, but explains it by asserting, that it is owing to a diminution or want of susceptibility, (*difetto di suscettività negli individui*) in the subjects. The active powers of contagion always remain unchanged, he asserts, and admit of no diminution. But how the susceptibility of an entire nation for disease can be so exactly graduated, as at one time to be suddenly excited, and again equally as suddenly extinguished, appears to me inexplicable. We had much better confess our ignorance of the cause, though we must allow the fact, of the sudden disappearance of plague. The strongest argument which the contagionists can oppose to the above, is, in my opinion, the perfect immunity which those persons enjoy who observe a strict seclusion during the prevalence of a plague epidemic. This was particularly noticed in the great plague‡ at London, where those who took refuge on ship-board escaped the disease. We may here be allowed to remark, that those who have denied the contagious nature of plague cannot be accused of a wish to mislead others, or to make themselves conspicuous, merely by supporting a novel opinion. They have generally been the first to expose themselves to the danger, and in too many instances have fallen victims to, what I conceive to be, an erroneous opinion. But would it be proper to stigmatize the memory of such men as having been rash and unthinking? Or would we patiently bear aspersions to be thrown upon the character of our countryman Dr. Whyte, who, in his attendance upon the sick of contagious diseases, discharged his medical duties with a zeal and courage that justly entitled him to the gratitude of all who knew him. He fell, it is true, a victim to what the cold-hearted might term want of prudence; but it might, perhaps, have been better for

* De Peste, p. 84.

† Mémoires de Chirurgie Militaire.

‡ De Peste, Dysenteria et Ophthalmia Egyptiaca. Vindob. 1820.

§ Ahhandl. ueber die Pest. 174.

* Hist. Med. de l'Armée d'Orient, p. 49.

† "A tutti è noto come cessata un epidemia contagiosa, il morbo non ripullì quantunque non siasi praticato l'espurgo generale delle Masserizie e robe che hanno potuto ricevere il contagio."—Annali di Medicina, Vol. xxiv. p. 226. How does the above agree with quarantine regulations?

‡ "Nous avons remarqué que ceux qui se renfermoient sains chez eux, en sortoient sains.—Chicoyneau Traité de la Peste, 195. Gutfeldt Einleitung in die Lehre v. d. anstek. Krankheiten.

the public, if every physician had, with equal honesty, tested his peculiar notions upon himself, before he practised them upon his patients. Of one martyr to the cause, however, it would gratify me much to see the memory rescued from the supercilious contempt which has been thrown upon it. I allude to an Italian physician, Dr. Valli, a name not unknown to science, and deserving of a better fate. Professor Thomassen à Thuessink of Groningen, in his very able treatise on contagion, stigmatizes Dr. Valli as "dissipated, depraved, or abandoned." In the German translation by Dr. Gittermann, he is called "den ruchlosen Valli!"* a very harsh term to be applied to deceased merit, and very unbecoming of the learned professor. Dr. Valli appears to have been a man of a cultivated mind, and overflowing with ardour for his profession. Being an enthusiastic admirer of vaccine inoculation, and imagining that the prevalence of natural† small-pox and plague was influenced by a kind of mutual repulsion between the two diseases, he flattered himself with having discovered a specific for the latter disease in the vaccine matter. To prove the truth of his opinion he went to Constantinople and shut himself up in a pest-house, from which he narrowly escaped with life. He made many experiments by inoculating with mixtures‡ of small-pox, vaccine and pestilential matters, which he promised to publish, but which are now, it is to be feared, lost. We have the respectable testimony of Dr. Granville, who was

* *Ruchlos*, impius, perditus, profligatus. Sine spe pœnitentiæ, sive resipiscentiæ. *Ruchles leben*, perditè vivere. Frisch, Teutsch-lat. Worterbuch. In Dutch, Zedelijk slecht, d. i. heilloos, rockeloos, bij voorb. Homo. Cic. Arch. 6. tu profligatissime homo. Schelleri Lexicon Latino-belgicum, curante D. Ruhnkenio.

† Each of these epidemics recedes as the other appears. The time when the plague shows itself at Kairo and its vicinity, is called *chamsin*, an Arabic word signifying fifty, because at this period the sirocco and south winds usually blow for fifty days. The proper mode of reckoning these fifty days is to commence from the vernal equinox, being the time when the plague appears in Constantinople, Lesser Asia, and also in Egypt. But the Egyptians from the Easter of the Greeks, which falls eleven days later than that of the Latins; neither do they trouble themselves whether the feast occurs early or late, in March or in April. The small-pox prevail at Kairo every year before the *chamsin* begins. When they are mild, not much is to be apprehended from the plague, even although a plague patient should be introduced into Egypt from the neighbouring countries. But if the small-pox be malignant, much diffused, and occasion many deaths, the plague also, when introduced by contagion, makes great havoc.—Wolmar ueber die Pest. p. 12.

‡ Med. and Chirurg. Review, Vol. xi. lxxiv. London Med. and Phys. Journal, Vol. x. 475.

present, that Dr. Valli inoculated himself with impunity with a mixture of vaccine and plague matter; and though some affected to raise doubts respecting the real nature of the latter, yet, if we may judge from the determined courage and sanguine character of Valli, they seem to have been unfounded. In consequence of these trials, a nostrum was advertised for sale as a preventive of plague; but it is not clear that Dr. Valli had any concern in it, at least not from sordid motives. But an apothecary at Constantinople was accused of preparing, as a specific for plague, an ointment, composed, as it was pretended, of vaccine and plague matter, to be used by such as put faith in Dr. Valli's supposed discovery. The apothecary was at length denounced and put to death, probably in the usual way, by strangling,—a mode of punishment too lenient for such a delinquent. A more severe method ought to have been adopted, the most dreadful of all to a medical man, that of being compelled to swallow his own remedies. After Dr. Valli's return from Constantinople, he took a voyage to the West Indies, to bring himself in contact with yellow fever, whose contagious nature he denied. Unfortunately, however, he caught the disease, and died only a few days after landing at the Havanna. The medical society of that place, much to its honour, attended the obsequies of this extraordinary man, and erected a monument to his memory.* A republication of Dr. Valli's works on plague, now out of print, with a biographical sketch of the author, by some of his learned countrymen, could not fail to prove an acceptable and interesting present to the medical world. In a moral point of view we all err, though each in a different way; but in a professional point of view, surrounded as we are with uncertainty and doubt, what man can tell the extent of his own errors? Amidst the obloquy thrown on the memory of this zealous inquirer, it is gratifying to find that the celebrated Omodei with more justice observes, "a tutti è noto che il valoroso Valli, ricco d'Esperienza su di questa materia, sosteneva non essere contagiosa l'aere respirata dagli appestati."† And Hildenbrand, a name which ranks high in medicine, speaks of "the celebrated Professor Valli of Mantua, well known as an accurate observer."‡

In early times the prevalence of any unusual complaint was commonly referred to idle tales of poisoning; and Livy§ libels the sacred character of the Roman matrons by such an accusation. In more modern times this reproach has been usually appended to religious disputes; and at the beginning of most public calamities, especially plague epidemics, the

* For an account of Dr. Valli's death, see Med. Chirurg. Zeitung for 1817, ii. 125.

† Peste di Smirne del 1784.

‡ Ueber d. a. Typhus, p. 76.

§ Hist. Rom. L. viii. c. 18, he properly adds, "Prodigii ea res loco habita, captisque magis mentibus, quam consceleratis, similis visa."

unfortunate Jews seldom escaped their share of persecution, of which too many instances are related by the older historians. Diemerbroek mentions some unfortunate wretches, compelled by torture to accuse themselves of smearing the doors of houses, &c. with a putrid compost, chiefly obtained from bodies dead of plague. Paulus Jovius,* an Italian writer of the sixteenth century, describing the siege of Naples, though he expresses some disbelief in it, refers the great mortality of the besiegers, evidently caused by a bilious remittent fever arising from marsh miasma, to the corrupt state of the air, and to the water being poisoned by certain herbs infused in it by the Moors and Jews. Those who drank of this water, he adds, had swellings of the belly and legs. Their faces became yellow, thin, and so much shrunk, that with difficulty the soldiers could recognise their friends. The sickness began in the camp on the 15th of July, and spread from the soldiers to the officers, who, alarmed for their safety, quitted the place. The only well authenticated instance I have heard of an attempt to communicate plague to an individual by pestilential matter, occurred at Tunis in 1795.† A Turkish physician, excited by envy, collected a quantity of pestilential matter in a rag, and put it secretly into the pocket of M. Gersonius, a Swedish surgeon. This was not discovered until three days after, when searching for an instrument, he got it in his hand. Without thinking of the consequences, he threw the rag into his garden, where it was smelled at by his dog, which in four or five hours became sick. The dog was well rubbed with oil, notwithstanding which, bubos appeared on the second day. They were opened as soon as matured, and the dog recovered. Gersonius, with a very proper spirit, in order to have an opportunity of studying the nature of plague, refused quarantine quarters, which were offered to him; and attended between 600 and 700 patients in that disease, of whom 150 had bubos. He appears from his letter to have escaped unhurt, though, so far from shunning contact with the sick, he had patients who died in his arms, whilst he was administering their medicines.

Why plague has been referred to the exanthemata is not very clear, unless from the occurrence of carbuncles‡ and petechiæ, nei-

ther of which are of constant appearance; indeed, the latter more frequently accompany typhus. Whether "the tokens, botch, purple swellings," belong to petechiæ or carbuncle is not easily determined. The *spots* or *purples* when punctured emitted a little blood; the tokens were rather hard and insensible when punctured. Defoe* describes them to be "gangrene spots, or mortified flesh in small knobs, hard as a piece of callus or horn," and certain forerunners of death. Carbuncle is a species of furuncle of a malignant form, which speedily terminates in gangrene. Sometimes it appears in a vesicular form, like those which precede gangrene, or like pemphigus, containing a yellow or dark coloured fluid. At first it has not an inflamed base, but about the second day the skin becomes red and tumefied, but depressed in the centre. The vesicle gradually increases to the size of a hazel-nut, or even to that of an egg, before it bursts, showing a black eschar or slough, which, with the inflamed margin, continues to increase until suppuration be fairly established between the dead and living parts.† Orræus‡ says, "Carbunculus siccus cum sphacelo senili—maximum similitudinem habet." Persons of a fat spongy habit are most subject to carbuncle.§ It appears chiefly on the back and loins, often on the breast, abdomen, or extremities, but not on parts covered with hair. It differs from bubo in always requiring some degree

A similar work could not fail to be useful to the English student.

* Defoe, p. 225. Hodge's Account of the Plague, 133, 137.

† Galen give a very accurate description of carbuncle, Vol. vii. p. 719, of the beautiful edition of the Greek physicians now publishing by professor Kühn of Leipsig. (Medicorum Græcorum Opera quæ extant, Lipsiæ.) Pliny, lib. xxvi.—iv. first introduced from Gallia Narbonensis; called *charbon provençale*. Commentar. de rebus in Scientia Naturali et Medic. gestis, Vol. xxiii. p. 396.

‡ De Peste, p. 98.

§ Grohman. In this disease, Lodovico Locatelli, Trattato della Peste, &c. Padova 1630, says, "me pero piac grandemente l'estrattione dell' inguinaglia con il ferro appropriato a questo, benchè sia *un poco doloroso*." When an anthrax supervened, he recommended a fontanel to be made upon it. He concludes, "ma sono diuoto del fuoco, con il quale si sono sanati dall' anguinaglie tutti li apestati nell' esercito dei Greci sotto Troia intorno gli anni del mondo 2800, li quali sono amorbati per la esalatione velenosa della terra." Another author on the treatment of bubos, says, "Alcuni li danno el focho e scotano con la candela accesa discolandoli suso la cera, e questo non e ben facto perche la cera proibisce la transpiratione de li humori. Ma meglio seria dargli el fuocho con lo ferro infocato o vero con auro."—Celsus de Medicina, Ed. Targæ, p. 258.

* The original work was printed at Strasbourg in 1556, about four years after his death. In the Spanish translation printed at Valencia in 1562, it is said, "Algunos soldados de extrema malicia, assi de los Espanoles que eran de genero Moriscos, como de los Tudes-cos que eran de genero de Judios, con cumos de yeruas venenosas, echando encima mucha simiete de Lino, y Trigo gastado y corrompido, havian inficionado los Pozos, mas cerca del Real de los Enemigos, y todas las cisternas."

† Schwedische Annalen v. Med. u. Naturgesch. von Rudolphi, Vol. i. p. 53. 1799.

‡ Schmalz Diagnostik in Tabellen, p. 228.

of fever to produce it. The treatment is precisely the same as that of gangrene, to increase the tone of the system, and thus enable the living parts to throw off the dead. The practice of scarifying, practised very generally, is reprobated by the best writers. Diemerbroek, with his usual humanity, remarks,—“et semper carbunculos, quo mitius tractantur, eo citius curatos fuisse.”* When not numerous, they probably have a similar effect to those mortifications on the sacrum and glutæi in typhus which very commonly prove a crisis to the fever.† Dr. Schneider,‡ a very accurate observer, remarks, that furuncles and ulcerations appearing in typhus, have usually good effects, showing probably a disposition in the disease to change from a general to a local affection; and in plague, when neither bubos nor carbuncles occur, the disease is usually fatal.§ Further, in typhus, swellings of the parotids and other glands frequently prove critical, and relieve all the bad symptoms. This was particularly observed in the Dresden epidemic of 1814. In plague, bubo sometimes affects the gland itself, and destroys it, but more frequently the cellular substance surrounding it is only affected,—an observation made by Larrey and others. Dr. Grohman has seen all the salivary glands affected with bubo except the sublingual; and of the conglobate glands, he has observed all but the *glandulæ popliteæ* to be susceptible of inflammation.

Hippocrates considers bubos in fevers to be bad;|| and Hildenbrand remarks that the early appearance of enlarged parotids in typhus is dangerous (p. 170.) Though swellings of the glands are not always evident, it is no evidence that they do not exist. If the parotids be accurately examined, they will be found in some degree affected with *engorgement* or pain, producing difficulty in opening the mouth, dulness of hearing, noise and buzzing in the ears. There is also a frequent discharge from the ears on recovery from typhus.¶

Petechiæ, though they have occasioned plague to be ranked among the *exanthemata*, are not, strictly speaking, of the eruptive kind, being merely effusions under the skin. They are by no means constant attendants of plague any more than of typhus; and when

they do occur, they are accidental symptoms, not in the least changing the nature of the fever. Yet Professor Omodei has attached a degree of importance to them to which they are not entitled. To support his opinion, that all contagions are of a permanent and unchangeable nature, and of foreign origin, he instances petechial contagion,* as he terms it; and which, with his usual erudition, he endeavours to prove was unknown to the Greek, Roman, and Arabian physicians. A contrary opinion, however, has been held by men of equal learning and accuracy of observation, of whom I shall only notice here the names of Gruner† and Willan.‡ Whether the slight notice of Hippocrates§ refer to petechiæ or not, is perhaps not quite clear; though we may observe, that the ancients were far from being careful in discriminating cutaneous eruptions, but usually comprehended them all under the general term *exanthemata*;|| and as the learned editor of the *Annali di Medicina* allows that petechiæ were confounded with morbilli, even so late as the end of the sixteenth century, it is no wonder if in earlier times they should be little noticed. Even until very lately a similar negligence has occurred with respect to morbilli,¶ rubeola or roseola, and scarlatina, which have been occasionally mistaken for each other, especially the two latter.** Hence may have arisen the supposition, that measles and scarlatina appear more than once in the same subject, or at least have made the exceptions to the general rule more numerous. Omodei endeavours to fix the first appearance of petechiæ in Europe, to Italy, in or about 1477–8, or the beginning of the sixteenth century, during the well known pestilence.†† They appeared in the course of the same year in Germany and in England; and to this disease

* L'esser incapace d'indicare il donde e il quando la Petecchia è stata per la prima volta introdotta en Europa non è sufficiente motivo per rifiutarle un origine esotica. *Annali di Medicina*, Vol. xxii.

† Morbor. Antiquitates, p. 110.

‡ On Cutaneous Diseases, 470.

§ Hippocr. Lib. p. 674, 697, 795, 866, popularium. Ed. Vander Linden, i. p. 849. Baldinger selecta opuscula in quibus Hippocrates explicatur, p. 220.

|| Glossaria in Hippocratem. Ed. Franzius, p. 48, 434. *Fæsiæ Œconomia Hippocratis*, p. 131.

¶ Raimann, Handbuch d. spec. u. Med. Pathologie u. Therapie, ii. 52. Selle Rudimenta Pyretologie, p. 171. Jos. Frank de Rubeola seu Rossalia. *Prax. Med.* Vol. i. p. 260. Henke Handbuch d. spez. Pathologie, Vol. ii. 79.

** Sprengel, Institutiones Medicæ, Vol. iv. p. 416. Dr. Willan on Cutan. Diseases, 433.

†† Brunner is said by Haller to be the first German who notices petechiæ, “Primum Germanorum febrem peticularem habere.”—*Biblioth. Med.* ii. 226. But it seems doubtful whether he does not rather allude to scurvy. See Gruner Morbor. Antiquitates, p. 117.

* See also Larrey Chir. Milit. iii. p. 153; Chenot, p. 180.

† Chenot, however, mentions the appearance of petechiæ in some cases of plague without bubos or carbuncles, yet none died.—*Tract. de Peste*, Vindob. 1766.

‡ Ueber den sporad. typhus u. das Wechsel-fieber. The same opinion is held by the learned Vogel, Handbuch, der pract. A. ii. p. 71 and p. 93.

§ De Peste iii. c. xiii. 186. See also Samoilowitz, Pugnet, &c.

|| Aphor. 55, sect. iv.

¶ See also Burdach vom Baue und Leben des Gehirns, sec. 323. Dreyssig Handwörterbuch der Medicin. Klinik. iv. p. 295.

the learned writer* refers the *Sudor Anglicus* of 1485.† But although Omodei supports his opinion of petechiæ being a new and idiopathic disease at that period, by references to an immense number of contemporary writers, and maintains his position with his usual candour and good temper, yet there still remains much obscurity upon this interesting point.‡ If petechiæ be enumerated by most writers as a frequent symptom, though neither constant nor characteristic of plague, when, it may be asked, did the petechial contagion unite itself to that of plague, so as to constitute one disease? Or must we suppose two species of plague, one with and the other without petechiæ? In typhus fever petechiæ frequently occur, but they are usually regarded as symptomatic only, more especially since they very commonly do not appear till late in the disease. We have no satisfactory proofs that petechiæ are contagious, like the fever which produces them, or that the fever becomes more infectious when petechiæ have appeared. Professor Omodei, however, entertains a contrary opinion, and wishes to establish a specific petechial contagion, which he affirms, in common with all other contagions, is permanent and incapable of modification. In denying that syphilis in early times was ever propagated as an epidemic, or that it had ever assumed any appearances different from those which occurred subsequent to 1495, he asserts that such transformations in the essential characters of contagious diseases are contradicted by analogy, which shows that no contagion has ever been in the least changed, or even rendered milder by length of time, change of climate, or any other cause. This opinion does not appear to me to accord with our experience. Of febrile contagion we yet know little more than its effect in producing fever, and its origin, perhaps universally, from living animal matter. If, therefore, it arises always from one source, it is not unreasonable to conclude that it must always be of one kind, though of different degrees of intensity. The fever excited by this matter applied to the human body may differ in some unimportant circumstances, in different countries and subjects, but is essentially the same in all.

* Battista Susio notices the epidemic petechiæ of Bologna in 1540, which infected only the inhabitants, and did not spread to the neighbourhood. *Del conoscere la Pestilenza*, p. 45.

† Ellis's *Original Letters*, Vol. i. 296.

‡ According to Dr. Friend, the sweating sickness appeared in 1483 at Milford, in the army of Henry VII. recurring four different times, the last time being in 1528. "In the following year, 1529, neither before nor afterwards, it showed itself in Holland and Germany." *Opera omnia*, p. 316. Parisii, 1735. Petechiæ are not noticed among the symptoms. Gruner, *Morborum Antiquitates*, p. 65.

§ Reuss. *Wesender Exantheme*, i. 37. Note.

|| Soemmering, *de Morbis Vascor. Absorbent.* p. 27.

A person infected by contagion is incapable of communicating it to another until some time after it has, in the first instance, excited a degree of fever. This period is uncertain. Some assert* that even the contagion of small-pox is incommunicable before the seventh day of the disease. The contagion of typhus, and also that of plague, can only be produced by a febrile state; and there is reason to believe that every febrile state, by whatever name it is designated, may, by improper treatment, by crowding the sick into a small space, by neglect of ventilation and cleanliness, be made to communicate the contagion of typhus and in certain countries that of plague. The peculiar contagion of the exanthemata cannot be produced by any known means, but even to them the typhoid contagion may be superadded. The remittent fever of Sierra Leone was certainly not contagious; but I had grounds for suspecting that it might run into a typhoid form. The worst cases of fever which occurred there were in seamen, who had by ill treatment been obliged to run away from slave ships. These people were generally wretched, squalid, and filthy. In them the remissions were always obscure, often imperceptible, appearing to form a kind of intermediate stage between remittent fever and typhus.

But it may be objected that typhoid contagion may exist in persons apparently in health. A very low degree of fever, however, and such as scarcely attracts notice, may suffice, as is exemplified in the exanthemata. For instance, many persons are thought to be unsusceptible of the contagion of small-pox, measles, &c. because they have passed through life without any visible appearance of eruption. In this supposition, however, there is some degree of fallacy; for the eruption is not the cause but the effect of that peculiar change, which can only be produced by fever, which gives security in future against these cycloid diseases. In many instances this eruptive fever is so slight as not to excite suspicion of the nature of the disease, and in infancy it is readily attributed to other causes. Besides, in typhus, we ought not to estimate the degree of fever solely by the increased action of the heart and arteries, but rather by the affection of the sensorium, as indicated by headach, stupor, depression of strength, &c. which do not always bear a relative proportion to the state of the pulse. In plague epidemics people have been observed to walk about without fever, feeling no inconvenience, except the pain arising from bubos or carbuncles. This has induced some to suppose that fever is not essential to plague; but it may perhaps rather depend, in such cases, upon the bubos and carbuncles proving a crisis to the fever.

The variety of names applied to different kinds of fevers afford no advantage to the practical physician,† and are disregarded at the bedside of the patient; for, however dif-

* *Unzer Pathologie der ansteck. Krankh.* p. 150.

† Selle, *Pyretologia*, p. 52.

ferent in name, the practice in fevers is founded upon the same general principle. The treatment of contagious typhus does not at all differ from that which has been found most successful in plague; and we find they have been so often mistaken for each other, by men of the highest professional skill, that we are led to suspect the two diseases to differ only in name. Chenot* asserts that plague shows itself at first with the common symptoms of typhus, followed sooner or later by bubo, carbuncle, or petechiæ. Many of the cases related by Diemerbroek and by Orræus might pass for mild forms of typhus, of which Diemerbroek's own case, "quasi fulmine tactus," and the few cases rather too briefly related by Dr. Wittman,† may serve as instances. Dr. Mackenzie, who resided many years at Constantinople, declares that the common pestilential fever of that city resembles our jail fever, and is only called plague when accompanied with bubos and carbuncles.‡ Yet no certain diagnosis§ can be founded on these appearances of bubo, &c. because they do not always occur, especially at the beginning of an epidemic. Glandular swellings are very prevalent in Syria, as Dr. Wittman informs us, where plague is not suspected; and it is not improbable that fever occurring in any of these cases might excite suspicions of plague.

Plague has been supposed by some writers to bear a close affinity to yellow fever; but they differ in some essential points. The first arises from and is propagated by contagion; whilst it now seems pretty generally agreed, that the latter arises independent of contagion, and is not spread by it.¶ Yellow fever is said¶ to prevail from the 23° of south Lat. to 46° north, requiring a continual heat of 84° for its production; but this degree of heat is sufficient to extinguish plague. On the contrary, a changeable temperature, inclining to cold, is destructive of yellow fever. Plague can maintain itself in excessive degrees of cold. Mindereus** was present at the plague of Ismail, during the most severe winter ever remembered there. All the attendants on the sick died except the gipsies, who were said to preserve themselves and children by bathing daily in the icy water of the river.†† Eton makes a curious remark, that the further east a country is situated, the less frequently it is visited by plague, which also is said never to appear, probably spontaneously, where the olive does not grow. It may indeed be remarked, that

extremes of heat or cold, unaccompanied by moisture, rarely produces disease. Great heat alone will not excite yellow fever. It did not occur at Sierra Leone during my residence there, though the requisite degree of heat existed. I have reason to believe that the ill effects of walking for a length of time under a vertical sun will be first experienced in the bowels by painful tenesmus, with an almost irresistible desire to evacuate them; thus laying a foundation for dysentery.

The striking resemblance between plague and the pestilential disease of horned cattle, called in this country murrain; in Germany, rinderpest, (cattle plague;)* hornviehseuche, (horned cattle contagion;) and provincially, loserdurre, has frequently attracted the notice of physicians. Indeed it was remarked, at a very early period, that epizooticks often preceded† or followed contagious diseases in the human subject, between which there was thought to prevail a strong analogy. Like plague, too, they have been supposed to be endemial in the east, and introduced from thence, to spread over all parts of Europe. The pestilential diseases incident to animals as well as the human subject have been classed under five distinct heads. 1. Oriental plague; 2. The variolous disease; 3. Plague of sheep (Schaafpocken); 4. Oriental cattle plague; 5. Occidental plague, or yellow fever. The epidemic disease of cattle is not only contagious, but it is also communicable by contagion to the human subject, producing carbuncle of a malignant kind, often attended with typhoid fever, extensive sloughing of the cellular substance and gangrene, in many instances speedily terminating in death.‡ Lancisi referred the origin of the epidemic which in 1711 proved so fatal in Italy to a Hungarian ox brought to Padua by some Dalmatian drovers.§ The parallel so accurately drawn by Professor Sick|| between the oriental cattle disease, as he terms it, and the occidental plague, shows in a very remarkable degree the strong resemblance of the symptoms in each disease.¶

* Reuss. Wesen der Exantheme, i. p. 4.

† Noticed by Hodges as preceding the great Pestilence.

‡ Hoffman der Milzbrand, oder contagiose carfunkel der Menschen, 1827. Harless, Handbuch, d. Aerzt. Klinik. ii. 256.

§ Ramazzini de Contagiosa Epidemia, &c.

|| Kr. Beleucht. u. Wurdig. d. Europ. Pestkrankheiten, p. 160.

¶ That the flesh of diseased cattle may be eaten with safety is further proved by Gœlicke, de Lue contagiosa bovillum. Mauchart, de Lue Vaccarum. Tubing. 1745. Halleri Disputat. Likewise, Ens de Morbo Bovem Ostervic, pro Peste non habendo, contains many judicious though caustic remarks. He says, the flesh of these animals was very generally eaten by the peasants, especially "a Batavis (gente, utpote, valde œconomica et lucripeta, ne quid pereat) et sane! optime ipsis cessit negotium hocce, nec de morbo quodam

* De Peste, pp. 89, 91.

† Travels in Turkey. Kortum de vitio scrophuloso, Vol. i. 260.

‡ Wolmar, p. 229.

§ Grohmann, Beobacht. ü. d. im Jahr, 1813, Pest zu Bucharest. pp. 82, 85, 96. Lud. Frank, 67.

|| Schreiben ueber das gelbe Fieber von Osgood.

¶ Sick. 110.

** Abermahl ein Beytrag zurheilung der Pest.

†† Account of the Turkish Empire.

Hungary labours under the opprobrium of having frequently poisoned the cattle stalls of the Continent; in all parts of which, in consequence of these frequent plagues, public attention is immediately attracted by the first appearances of sickness among the cattle. Sanitary laws are established for the purpose of guarding against contagion, and placed under the surveillance of medical men skilled in veterinary practice. It has been remarked that foreign troops quartered in a place, or even marching through a country, although they appeared to be in perfect health, have introduced or excited febrile contagion. Ships of war often become sickly, by merely having strangers, though apparently in health, introduced into the crew. The same has been observed in cattle. Pilger* relates that he had seen 500 head of Hungarian cattle, all in apparent health, except somewhat fatigued by driving; yet these animals introduced a fatal disease among all the cattle where they chanced to pass the night. The same happens in Russia when cattle are driven from Kasan to Moscow. Hence it appears that a great number of cattle crowded together may produce a contagious matter, as is also observed in hospitals crowded with human subjects.† During the period between 1812 and 1815 the *Rinderpest*, or murrain, prevailed extensively on the Continent, and in consequence, Russia, Poland, Silesia, Bohemia, Saxony, and many of the small German states, suffered great devastation. After the battle of Leipzig, the disease proceeded with the advancing armies across the Rhine, and showed its destructive powers even in the vicinity of Paris. Camper referred this cattle disease to a poison of foreign origin, producing effects similar to the plague, spreading from one country to another, and manifesting itself by a train of symptoms indicating disorder of the sensorium. It has been doubted whether the flesh of such animals may be eaten with safety. We see this done with perfect impunity by gipsies and similar outcasts; but it may be considered as put out of doubt by the numerous experiments of Camper, that the flesh of cattle which have died of murrain is perfectly harmless when cooked.‡

Germany during the late severe struggle, in addition to the horrors, inseparable from war, heaped upon her in more than due proportion, was ravaged by a contagious typhus, very aptly termed war-plague, (*Kriegspest*), from its great resemblance to that disease, and

conquesti unquam." Halleri Disp. v. *in fine*.

* Unzer Einleitung zur allgemein. Pathologie, 416.

† Goettingen im Med. Phys. u. hist. hinsicht geschildert. von Dr. K. F. H. Marx, p. 323.

‡ Pilger Handbuch der Veterinarwissenschaft. 1803. Ramazzini de contagiosa Epidemia. Reuss. Heilung u. verhutung d. Kinderpest. 401. The beneficial effects of sluicing the cattle with cold water is very strongly pointed out.

which occasioned an appalling loss of human life, as may be gathered from the following account:

In December 1812 and January 1813, there appeared in the Prussian territories the melancholy remnants of that immense French army which so shortly before had breathed defiance to the world, but which was in a few weeks, in the most unexampled manner, almost annihilated by cold, hunger, and the extreme of misery. More dead than alive, these former conquerors of the world, enervated and emaciated, appeared first in Lithuania and Silesia, bearing the terror of the Almighty in their countenances, and still more in their hearts; frozen in their limbs, physically and morally dead. The world had never before witnessed such a superabundance of human misery compressed into one point, nor had we ever seen it represented by such dreadful effects. It was not disease, that expression is too weak; it was the last sigh of human nature afflicted and tormented to death. They sunk with a general tremor, a total exhaustion of strength, destruction of the mind and nervous system, torpor of the skin, fever, petechiæ, and colliquative diarrhœa. Numbers were the prey of death; most of the survivors carried away chronic diseases; and certainly, of those who saw the conflagration of Moscow, not one returned without the germ of death in his vitals, or at least bearing in his physical powers a life-long reminiscence of that dreadful day.*

Though the disease was generally acknowledged to be a malignant typhus, yet great diversity of opinion prevailed respecting it; some considering it to be a sthenic, others an asthenic disease; some referring it to inflammation of the brain, others of the abdomen. The late Dr. Marcus of Bamberg, a man of talent and observation, but very ardent in support of his opinions, could only see in this disease the prevalence of the sthenic diathesis, and referred it, as well as every other case of typhus, to inflammation of the brain, which opinion is in some degree still followed. Marcus shed torrents of blood in defence of his doctrine, and no doubt was gratified with the success of his practice.† Other physicians, however, deservedly eminent, cured their fever patients likewise, but by a very opposite

* Hufeland, uber die Kriegspest, p. 53. As a companion to the above, the "*Historia Febris Gallicæ Castrensis*" by Scrinci, which occurred among the French under Marshal Belisle at the siege of Prague in 1741, deserves to be noticed. (Halleri Disputationes, V. 387.) The deplorable and filthy state of the French hospitals, and the appalling loss of 30,000 men by fever, owing apparently to an obstinate and perverse attachment to a system of practice decidedly in opposition to common sense, might almost lead us to doubt whether medicine has been a blessing or a curse to mankind.

† Harless, Handbuch d. Aerzt. Klinik, i. 208.

mode of treatment.* The inference to be drawn from these conflicting opinions is, that nature can bear a great deal; but how much we have yet to learn.

(*To be continued.*)

From the Edinburgh Medical and Surgical Journal.

OBSERVATIONS ON A PECULIAR SWELLING OF THE LOWER EXTREMITY AFTER FEVER. By ALEXANDER TWEEDIE, M. D. Physician to the London Fever Hospital, &c. &c.

The excellent and learned paper of Professor Duncan on Diffuse Inflammation of the Cellular Tissue, published in the first volume of the Transactions of the Medical and Surgical Society of Edinburgh, and more recently that of Mr. Lawrence on Erysipelas, in the 14th volume of the Transactions of the Medico-Chirurgical Society of London, have directed the attention of the profession to the pathology and treatment of some important local affections originating in inflammation of the cellular tissue; and it is with the view of adding to the valuable illustrations contained in these papers, that I now offer a few remarks on a peculiar swelling of the lower extremity, which occasionally comes on during the progress of, or convalescence from, fever.

It has been cursorily noticed by Dr. Cheyne in his report of the Hardwicke Fever Hospital, among the sequelæ of fever, as "an affection not confined to the female sex, resembling *phlegmatia dolens*," but he has not alluded to either its pathology or treatment.

It corresponds very much in its character and progress with the puerperal *phlegmatia dolens*, although from its resemblance to the œdematous swelling of the lower extremities, which occasionally appears after cases of protracted fever, its real nature and treatment are apt to be overlooked.

This disease, which I conceive to be inflammation of the cellular tissue of the limbs, differs, however, in many particulars. For example, in all the instances I have seen the swelling has been confined to one extremity, making its appearance first about the upper part, extending gradually over the whole limb, and being attended with acute pain. It does not retain the impression of the finger, as in common œdema, which generally commences round the ankle and foot, and seldom extends much higher.

I have treated several cases of this affection within the last four years at the London Fever Hospital. All the subjects of it were females, two of whom were under 20 years of age, and unmarried. I have been informed, however, that one case occurred in a male; but I have not been able to trace the history or treatment.

It may be remarked, that in all the instances which came under my notice, active depletion had been employed in the treatment of the fever, so that the convalescence was rendered somewhat tedious; and the first warning of the disease was given by symptoms of general excitement, which led me to expect either relapse or some visceral inflammation. In a few hours, however, the cause of the general disturbance became more apparent, from the patient complaining of stiffness in one of the lower extremities, followed by aching pain either about the upper and inner part of the thigh, or in the ham, around the knee or calf of the leg; and as rheumatism is by no means an unfrequent accidental accompaniment of fever at certain seasons, the uneasiness and pain in the limb are at first very apt to be ascribed to this cause.

In the course of twelve to eighteen hours the pain and stiffness increase, and on the limb being examined, it is found somewhat swollen and perceptibly hotter than the opposite; but there is no redness of the skin, which, on the contrary, has a smooth, white, shining appearance, and the cutaneous veins are distended with blood, and occasionally tortuous. As the disease advances, the swelling extends uniformly over the limb from the upper part of the thigh to the toes, and feels tense and elastic, but not at all diminished by the semiflexed position of the limb, which the patient generally prefers.

I also remarked the total inability to move the limb, not so much on account of pain, as from want of command over the voluntary muscles. This peculiarity has been noticed by Mr. Burns in the puerperal *phlegmatia dolens*.

When active treatment has been adopted, the pain abates, the swelling loses its elasticity and tension, so as to retain partially the impression of the fingers about the foot and ankle, and the heat of the limb diminishes, but the power of moving it continues for a long time considerably impaired.

In one case the disease terminated in ill-conditioned suppuration, and fluctuation being discovered on the fore part of the leg, an incision was made through the integuments, and a considerable quantity of thin sero-purulent fluid escaped. In this instance the affection differed from common abscess in there being no wall or cyst to confine the matter, which was lodged among the muscles, and required the application of a bandage to prevent its farther diffusion as it was secreted. This patient, after a tedious convalescence, completely recovered the use of the limb.

The two following cases, which have recently come under my care, will illustrate this disease, and the treatment which, under the view I have taken of the pathology, seems best adapted to subdue it.

CASE I.—Mary Bennett, 36 years of age, unmarried, was admitted into the London Fever Hospital on the 2d of November 1827.

She had been the subject of fever for ten days previous to admission, the brain being

* Bach, Grundzuge der ansteck. Krankheiten, 79.

the organ principally affected from the commencement of her illness. She had been twice largely bled from the arm, and afterwards leeches on the temples, from which measures only temporary relief was procured. The severity of the disease being therefore still unsubdued, the pulse strong and full, the face flushed, and the skin hot, it was deemed advisable on her admission into the hospital to repeat the venesection among the other antiphlogistic measures adopted. These being still insufficient to relieve the head, she was largely cupped, which, with the constant application of a cold lotion to the scalp and active purgatives, completely subdued the cerebral symptoms, and in a few days she was evidently convalescing. About a week after, however, and before she was permitted to sit out of bed, symptoms of fever became evident, and on the following day she complained of uneasiness in the left lower extremity, which on examination was found considerably swollen from the groin to the toes, and very painful when touched or moved.

The integuments were hot, smooth, shining, of a pale marble white colour, and on the fore part of the tibia there was a large mark or scar, seemingly produced by previous vesication. On inquiry it was found that some time previously she had erysipelas of the leg, which terminated in extensive vesication on the seat of the cicatrix. Judging the disease to be of an inflammatory character, I directed twelve ounces of blood to be taken from the upper and inner part of the thigh, over the region of the inguinal vessels, and afterwards fomentations to be applied to the limb.

These measures had the effect of diminishing the pain, but the swelling continued to increase, the circumference of the affected thigh measuring twenty-eight inches. At this period my friend Mr. Lawrence did me the favour to give his opinion, and, deeming the view I had taken of the disease to be correct, agreed with me in the necessity of the repeated local abstraction of blood, and the diligent use of hot fomentations. She was at the same time put on a course of purgative and diuretic medicines.

Twelve to fifteen leeches were accordingly applied over the general surface of the limbs every second day, so that in the course of the succeeding ten days eight-four leeches had been applied; and the following is the report in the journal of the progress of the disease at this period:—

Skin of moderate heat; tongue quite clean; bowels open; urine in natural quantity and appearance; good appetite; sleeps well; pulse 108. The circumference of the affected limb has not diminished, but the integuments are much softer, and the leg and foot when pressed retain the impression of the finger, and the circumference of the leg has decreased half an inch.—The same medicines to be continued.

On the 15th the integuments of the limb are reported to be still warmer than natural, but the swelling to have much subsided, so that the whole limb feels softer; general

health much improved.—A cold lotion to be applied to the limb.

On the 23d the swelling of the limb is noted to have been gradually decreasing, and the surface to be of natural temperature.—The limb was directed to be bandaged.

On the 26th December she was dismissed from the hospital, the limb being nearly reduced to its former size; and she had no perceptible lameness.

CASE II.—Anne Davis, 27 years of age, married, was admitted into the London Fever Hospital on the 29th November 1827, in the thirteenth day of fever.

The symptoms on admission indicating intestinal inflammation, she was bled generally and locally, besides the adoption of other measures calculated to subdue the abdominal disease.

The convalescence, which was slow, was farther protracted by an attack of inflammation of the throat, for which the repeated local abstraction of blood was necessary.

In this debilitated state she was seized with shivering, followed by hot skin, thirst, and headach. These symptoms were succeeded by pain in the calf and ham of the right leg, extending in the course of a few hours over the whole limb; the skin was paler than natural, hot, smooth, and shining, and the whole thigh and leg were considerably enlarged. Twelve leeches were applied to the limb, and this was followed by anodyne fomentations and saline aperients.

These measures having procured only partial relief, the leeches were again applied, and muriate of ammonia added to the fomentation, from which she derived great relief, the swelling, heat, and pain of the limb subsiding in the course of a few days.

A threatened renewal of the disease a few days after was arrested by another application of the leeches and fomentation as before recommended.

It was a considerable time before this woman regained the complete use of her limb. A bandage was applied after the pain had subsided, which contributed materially to reduce the swelling; and she was dismissed from the hospital on the 6th of February 1828, free from complaint.

From the London Medical and Surgical Journal.

REMARKS ON DR. LUCAS'S PAPER ON THE CIRCULATION. By F. BAILEY, M.B. Cantab.

To the Editors of the London Medical and Surgical Journal.

GENTLEMEN,—Sometime ago I appeared in your columns as the advocate of the doctrine which supposes the heart to be the sole organ concerned in the circulation.* More recently,

* Journal of Foreign Medicine, Vol. I. page 423.

Mr. Davies has appeared on the same side; but, in your last Number, I perceive this theory has been attacked by Dr. Lucas,* who assures us, that Dr. Hastings "has proved the muscularity of arteries by a body of evidence perfectly irresistible." Not having, as yet, had the good fortune to peruse Dr. Hastings' essay, I can of course be no judge of its merits; but since it leads to inferences at variance with the conclusions of some of the most celebrated modern physiologists, and derives no solid support from the more ancient writers on the same subject, I am almost tempted to suspect some fallacy on the part of the Doctor. Dr. Lucas himself, indeed, towards the conclusion of his remarks, seems to intimate a certain degree of doubt as to the validity of this doctrine, when, relaxing from his high strain of eulogy, he observes that "a presumption (only) will arise in its favour."

To the question of the muscularity of arteries I have myself given some attention. I have frequently and very carefully dissected these vessels, but never could I discover in them any resemblance to muscular fibre. Often also have I, with the aid of a microscope of sufficient power, watched the motion of the blood in the capillary vessels. The red particles, whose figure I could distinctly perceive, appeared to roll onwards with a perfectly uniform and uninterrupted motion. No alternate fits of motion and quiescence, such as happen to the contents of all other muscular tubes in their progress, were discoverable here; and this, I apprehend, is a fair ground for concluding that such particles must have been propelled by a dissimilar power. Haller, again, that illustrious physiologist, plied the arterial tubes with a variety of mechanical and chemical stimuli, such as would infallibly have roused into action any other hollow muscle, but could never succeed in producing (what Dr. Lucas contends for) their alternate contraction and dilatation. At a later period Dr. Parry and his associates put this point to the test of ocular proof, by means of accurate and very delicate admeasurements, and they also came to the same conclusion. They could discern no alteration in the size of the artery as the blood flowed through it, no evidence of systole or diastole, although at that very moment the vessel yielded, on a slight compression between the thumb and finger, all the phenomena of the pulse. Both these writers, indeed, have borne ample testimony to a vital or tonic contraction occurring under certain circumstances; but neither of them ever confounded this mode of action with that alternate contraction and dilatation upon which the pulse is supposed to depend, and by which, alone, a muscular tube can be conceived capable of carrying forwards its contents. By a careful examination, I am aware a fibrous appearance may be developed in the arterial tunics; but it would be a gross perversion of

truth to call those fibres *muscular*, which are wanting in the *external characters of such fibre, are dissimilar in point of chemical composition, obey not the same laws, and display none of the phenomena that are its inseparable concomitants*.—I entirely agree with Dr. Lucas, that the question must be decided by facts—clear and indisputable facts; and I therefore wonder that, with such facts as these before him, he can any longer stand up in defence of the muscular theory. But, for the sake of argument, we will even suppose the vascular system to be provided with muscular fibres. If, as is generally believed, these fibres are arranged circularly around the vessel, or rather in planes perpendicular to its axis, it is certain the consequence of their contraction will be to propel the blood as forcibly back towards the heart as from it, and thus to defeat the intention assigned them, that of assisting in the circulation. For, although (as Dr. Lucas very properly observes) no actual regurgitation into the heart can take place, by reason of the valves placed at the origin of the aorta, yet the momentum of the retrograding blood must present an obstacle to the successive efforts of the ventricle in the expulsion of its contents, far greater, indeed, than can be imagined to rise on the supposition that it has to contend against the inertia of volume merely. In short, the abettors of this doctrine are reduced to the necessity of maintaining that the heart continually generates motion for the purposes of circulation, which fails in its object; an absurdity, the bare mention of which is sufficient to throw discredit upon the theory from whence it proceeds, and to prove its repugnance to that wisdom and simplicity every where discoverable in nature's works. To obviate this difficulty, one suggestion has been offered, not devoid of plausibility. It consists in supposing that the fibres are arranged not circularly but obliquely, in regard to the axis of the vessel, and that, by contracting towards that point which is farthest removed from the centre of circulation, they must necessarily assist the heart in giving to the blood its progressive motion. To this, in common with many other equally ingenious conceits, there lies this simple objection, that they are all mere creatures of the imagination, having no foundation whatever in nature, fact, or truth.

Impressed with the force of these considerations, to which many more might be added, I can by no means concede to Dr. Lucas the assumption with which his essay commences, "that the arteries are muscular tubes." In error, as I candidly believe him to be on this point, he seems to me to deviate still further from the right line when he attempts to define the uses to which that other well-known property of arteries, their elasticity, is made subservient.

What, for example, can be more untrue in point of fact than his opinion, that the contraction or diminution in the caliber of an artery from exposure, laceration, or other injury, is effected by virtue of its elastic power? That such contraction or diminution in the ca-

* Journal of Foreign Medicine, Vol. II. page 344.

vity of the vessel results from the operation of a very different cause is most satisfactorily shown in the experiments of Dr. Parry, already alluded to. That observant inquirer drew blood largely from a vein at short intervals, and, after each successive bleeding, ascertained, by a very delicate admeasurement, what change had occurred in the dimensions of a large artery, laid bare for the purpose of observation. He found, that with every evacuation it contracted in size, and that just before death it had reached its minimum. A few hours afterwards, however, when every spark of vitality had become extinct, and the vessel was left to the sole influence of its elastic energy, it again dilated nearly to its original dimensions. From these facts, therefore, it inevitably follows, that dilatation is the proper effect of arterial elasticity,* and that the contraction of these vessels is accomplished upon a very different principle—a principle which is inherent in its fibrous texture, and which, being extinguished with life, is aptly enough designated by the title of vital contractility.

Having thus endeavoured to prove that the blood-vessels are not actively concerned in the circulation, it may not be improper to state in what sense they ought to be considered as subservient to that important function.

Upon the authority of facts and experiments already quoted, it is, I think, fair to conclude that the arteries are endowed with two very opposite properties or powers; one to diminish their capacity, called vital contractility, the other to increase it, denominated elasticity. Now, by a due adjustment of these opposing forces (agreeably to the analogy which seems to subsist everywhere,) the artery, I conceive, is reduced to the condition of a *rigid tube*—a condition plainly incompatible with all idea of its exerting a contractile effort on its contents. It is, in truth, a mere passive tube, whose influence on the circulation is strictly negative; and the only sense in which it can, with propriety be said to act at all is, by diminishing resistance, not by supplying force; and, although these operations are, in effect, the same, yet in a physiological point of view must they be distinguished, or much reason will there be to fear the introduction of practical as well as speculative errors.

Seeing then that arteries are, in effect, rigid tubes, it may very reasonably be asked, how can they be capable of increase or decrease, so as to suit every alteration in the quantity of the circulating mass? Such a contrivance would, *a priori*, seem contradictory and impossible; and yet it proceeds upon a plan exceedingly simple. We have only to suppose, what we know to be fact, that the vital con-

tractility of an artery is *variable*, whilst its elasticity remains *the same*. If, then, that vital contractility increases, it must produce upon its antagonist power a corresponding effect; it must diminish the caliber of the vessel, until the equilibrium of the opposing force is restored. In like manner, if it be supposed to diminish, then will the elastic power predominate, and go on increasing the diameter of the artery until the two powers again become in exact equipoise. Of so easy solution is this apparently difficult problem; and never can we sufficiently admire the wisdom displayed in such a provision.

The principle upon which I have endeavoured to explain the adaptation of the arterial system to the opposite states of plethora and inanition, would, if pursued, go very far, I apprehend, in accounting for all those disturbances in the balance of circulation which constitute so great a sum of human misery; but this is foreign from my present purpose. From what has been advanced, I trust it may now sufficiently appear *that the arteries are a system (in effect at least) of rigid, passive tubes, serving merely as conduits to the fluid that may be destined to pass through them.* In estimating, therefore, the obstacles which the heart has to overcome in the circulation, we must strike out of the account *that enormous sum of resistance, originating from a supposed contractile effort of the blood-vessels on their contents, and constituting one of the greatest difficulties with which the question of the heart's power has been encompassed.* Another equally erroneous element in that calculation is derived from the consideration of the various angles at which the arterial trunks send off their ramifications. To acquire a correct notion of the circulation, we must conceive a system of tubes in free communication with each other, all in a state of repletion, and to one point of which a force is applied. In other words, we must imagine the simple case of an enclosed vessel filled with liquid. Now, if to *any part* of this vessel you administer force or pressure, it is immediately extended *to every other part*. In like manner, I apprehend, it happens, that *the force or pressure communicated by the heart to the contents of the aorta is instantly propagated to every part of the vascular system, notwithstanding the infinite variety observable in the angles and directions of the vessels of which it consists.* Frictions and inertia, then, seem to be the only real impediments to the circulation; friction against the sides of vessels, and the inertia of the mass to be moved—and, sceptical would that person be justly esteemed, who should refuse to so powerful a muscle as the heart the ability to surmount such obstacles. For, if the sufficiency of this organ, for the purposes of circulation, could not be disproved, even on the supposition that it had to contend against gratuitously assumed resistance, how much more equal to such a task must it appear, when it is considered, *that the chief of those resistances have only an imaginary existence.*

To this theory, however, Dr. Lucas has

* I wish this to be understood with some limitation. I do not mean to say that an artery may not contract itself when immoderately extended. This were absurd; but all I intend to convey is, that, in the ordinary state of a living artery, dilatation is the proper effect of its elasticity.

proposed two objections that require a moment's consideration. The first is, that the blood continues its motion in the capillaries after apparent death, or even after excision of the heart; and the other, that the great arteries are found empty on dissection. With regard to the former of these objections, I would observe, that we are not told how long after the heart had ceased to beat, or after its removal from the body, this phenomenon continued. To the validity of the objection such information is very material. For it would be as unreasonable to suppose that the previously acquired momentum of the blood should be immediately annihilated on the abstraction of the heart's power, as that a ball should cease to move as soon as it had escaped from the cannon's mouth. In both cases the motion must remain for a considerable space after the power which produced it has ceased to be. In reply to the latter objection, which is founded on the vacuity of the great arteries after death, I would remark, that this appearance is very easily explained without any reference to the muscularity of the capillary system. Hunter has recorded an instance, in which the dimensions of an artery were so reduced by simple exposure, that it became an impervious cord. States approaching to this are, indeed, no uncommon occurrence, and, doubtless, result from the operation of that principle we have so often adverted to, *vital contractility*. It follows then, that the same thing may happen to the aorta, and its immediate branches. Suppose them, therefore, greatly reduced in their diameter from such a cause, and that, in this state of contraction, death supervenes. The contractile energy depending on life vanishes, and the vessels are left to the uncontrolled influence of their elastic principle, by whose agency they acquire a greater capacity, perhaps, than they had ever previously attained. Hence the vacuity on which so much undue stress has been laid. In despite, therefore, of every argument to the contrary, I am still disposed to adhere to my old, and long-cherished opinion, that *the heart is the sole cause of the blood's motion, and that the channels through which the blood passes are mere conduits*, endowed, by a peculiar construction, with the power of obviating resistance to the utmost possible degree.

I remain, gentlemen, yours, &c.

F. B.

From the London Medical and Physical Journal.

ON THE REMOVAL OF LOOSE SUBSTANCES FROM THE KNEE-JOINT.

By CHARLES AVERILL, Esq. Surgeon to the Casualty Hospital at Cheltenham.

Probably there is no disease to which the knee-joint is subject which produces more excruciating pain, for short intervals, than that occasioned by cartilaginous or bony substances lying loose in its cavity.

The following observations, therefore, on the removal of these bodies, I trust, will not

be considered unimportant, presuming that that object may be facilitated by the means they suggest.

When it is ascertained that one or more of these substances are lying loose in the cavity of the knee-joint, we have the choice of two modes of practice, which may be called the palliative and the curative. The former is the method proposed by the late Mr. Hey, of wearing a bandage, or laced knee-cap, so as to confine the substances in one spot, and thereby prevent its giving pain by getting between the extremities of the bones forming the joint. This practice, I should imagine, is not applicable to those cases in which there are two or more substances present; especially if they differ considerably in size, and if the patient's occupation subject him to hard labour or severe exertion. In such cases relief may be afforded by the operation of removing the substances; but this, from its necessarily laying open the joint, as well as from its having been, in some instances, unsuccessfully attempted, has always been considered a serious undertaking.

The only difficulty that, as far as I am informed, has been found in accomplishing the operation, even when there are two or more substances present, is to fix them, whilst the operator cuts into the joint, so that he may extract them readily after the incision is made. This difficulty, which is owing to the polished surfaces of the loose bodies, and the lubricating nature of the synovia favouring their slippery passage from one part of the joint to another, obliged the surgeon to relinquish the operation, even after he had cut into the joint, in a case of this kind, which was lately related to me by Mr. Thomas Christie, an apprentice of Dr. Ballingall's, surgeon to the Royal Infirmary in Edinburgh. In this case the operation had been twice attempted, by different surgeons, without success; and the patient afterwards went into the Edinburgh Infirmary, where the substance was removed by Mr. Allan.

Aware of the above facts, I was induced to consider how I might obviate the difficulties I have stated, and have been gratified to find that I could do so by very simple means. When the patient, whose case is here introduced, came under my care, I procured an iron ring, and found, upon trial, that the loose substances in the knee-joint were to be readily fixed by it, so securely, in one spot, as to leave no doubt in my mind of their being easily extracted. The result will best appear in my notes of the case, which are as follow:

George Fluck, aged thirty, by trade a gardener and nurseryman, was admitted into the Cheltenham Casualty Hospital, August 16, 1825, when he gave the following account of himself:

He had, for several years, thought there was a degree of weakness in his knees, particularly when he was carrying any heavy weight. Between two and three months since, after he had been kneeling for some time in the garden, at work, he was attacked

with considerable inflammation and swelling in the left knee, for which he used an embrocation, and, when the swelling went down, he found there was a moveable substance in the joint. Shortly after he discovered a second. These at times caused excruciating pain, more particularly when he was walking down hill, or coming down stairs, so as to oblige him to sit down till the pain had subsided.

He had worn a bandage, by means of which he could fix the larger substance at the upper and outer part of the joint; but the smaller one could not be retained in any one place, and it was this which, from its motion, and from its getting between the ends of the bones, gave him pain.

At the time of his admission, both substances could be readily felt, and moved to different parts of the joint: one appeared to be about the size of a marble, flattened; the other considerably smaller.

He was recommended to submit to the operation of having them removed, to which he consented; and was therefore directed, by way of preparation, to take at night some pills of calomel and extract of colocynth, and some aperient medicine by day, for two or three days, and to eat no meat.

On the 19th, the operation was performed in the following manner: Both the substances being pushed to the upper and outer side of the joint, and the integuments drawn tightly over them towards one side,* while the knee was kept straightened; the substances were fixed by means of the ring, which I held with my left hand, firmly pressed against the side of the outer condyle of the femur, thus rendering their escape back into the joint impossible. I then, with a common scalpel, made an incision, within the ring, through the integuments and capsular ligament, from above downwards into the joint; when the larger substance immediately fell out on the floor, and with my finger I tilted out the smaller one.†

The operation was performed in less than a minute, and only about a drachm of synovia escaped. There was no bleeding of consequence. The lips of the wound were brought together by adhesive plaster, a bandage applied, and a long splint was fixed on the outside of the limb, to prevent the knee being bent. He was directed to keep quiet in bed, and to take a saline draught every three hours.

20th.—He has had a good night, and is free from pain.

22d.—The wound dressed, looking very healthy.

28th.—Sat up for an hour or two.

September 3d.—Discharged quite well.

In conclusion, I may be allowed to ask,

* This was done to prevent the wound in the integuments being parallel to that in the capsular ligament.

† The substances removed appear to have been broken from each other; and to be composed in part of bone, which is imbedded in cartilage, surrounding it on the margin and on the whole of the under surface.

whether the evils so much dreaded in the operation of removing loose cartilages from the joints may not, in all probability, have arisen from the excessive escape of synovia, and the irritation produced by unsuccessful attempts to squeeze out those substances at a wound made comparatively upon speculation; and whether, if they can be always certainly and securely fixed by the simple means I have employed, the operation be not thereby rendered sufficiently safe to authorize us to recommend it with confidence: at all events, where the bandage and knee-cap have failed to afford relief.

From the *Philosophical Magazine and Annals of Philosophy*.

REMARKS ON THE INFLUENCE OF TERRESTRIAL RADIATION IN DETERMINING THE SITE OF MALARIA.

By WM. ADDISON.

The diseases arising from atmospheric impregnations have long formed an important topic of inquiry among medical men, and are generally supposed to have an origin from some subtle poison, prevalent only in certain places, or over very circumscribed situations. Upon considering the various circumstances under which these diseases are produced, and the impossibility of any poison dispersed through the air from the ground becoming partial in its operation, or always confined to any particular district (when every wind must waft it away from the spot of its emanation,) unless some adventitious circumstance influences its operations,—I am induced not to subscribe to the doctrine which teaches that they take place from a specific or peculiar and locally acting effluvium. On the contrary, I think we shall find that most of the ordinary atmospheric impregnations will produce the diseases of malaria, when under certain peculiar circumstances they are liberated from their combinations; diseases which will, no doubt, be violent or not, according to the quantity or quality of the matters developed.

The atmosphere, as is well known, retains every where mingled with it variable proportions of aqueous vapour, mixed probably with various effluvia arising from the action of the sun upon the many substances on the surface of the earth. During a bright day, therefore, the air over those portions of the ground subjected to its influence becomes saturated with vapour, and any reduction of temperature by radiation will always be accompanied by the deposition of moisture and the precipitation of a portion of those subtle matters drawn up by the agency of heat; whereas any diminution of sensible caloric, which may ensue from a rush of cold air, may not be accompanied with the same effects: for it very often happens that such currents have not nearly attained their maximum point with respect to vapour, and therefore none of these things happen; or if they do, the deposits occur in the form of rain, far less prejudicial

than those chilly fogs produced by the *radiation of caloric from the earth*.

When we think of the important process of radiation, the effects of which have excited the attention of philosophers, especially those connected with horticultural pursuits, it is extraordinary that it should wholly have escaped them to pursue their investigations into this curious subject, with reference to the momentous matter of local salubrity; for little doubt remains upon my mind, that a well conducted series of experiments instituted to discover the phenomena resulting from the *radiation of heat into the heavens*, in different situations and over various surfaces and soils in several places at the same time, would discover to us an important field well worthy of research as connected with the health of mankind.

I have already endeavoured to draw the attention of those who may possess opportunity and the means of entering into this interesting branch of inquiry, towards the benefits their labours are likely to confer upon us in a medical point of view.* I have shown that all those situations where the radiation of caloric goes on with rapidity, are occasionally, if not at all times, extremely unhealthy; while others, where this process is diminished, are on the contrary much less obnoxious to disease. I have shown that debilitated constitutions are invariably found to regain the tone and vigour of health much more perfectly and more quickly in places little influenced by radiation or removed from the sphere of its effects, than in others exposed to the depositions which it causes from the air; and I have endeavoured to confirm these observations, by pointing out that in the *radiation of caloric* may be found the cause of the activity of those exhalations with which the sun, in tropical climates especially, saturates the air: in fine, that in this important process one of the principal causes of malaria will be found.

I shall here offer a few more facts in support of the views I have taken. And as nothing has tended more to confirm me in them than the perusal of Dr. Macculloch's Essay on the Production and Propagation of Malaria, I shall proceed to the consideration of some of the passages in that publication.

"The careful observer will often perceive," says the Doctor, "that there are certain determinate places without any marshes, where fevers are almost annually prevalent; while other places in the vicinity are almost wholly or nearly exempt. A proof of this may be drawn from the fact that some localities are known to be unhealthy as compared with other neighbouring places.

"Thus it is the vulgar remark, that in certain houses or places a family is rarely without some sickness; or, to use the strong but coarse language in which it is generally stated, 'that the apothecary is never out of the

house.' It is almost equally familiar, that families which before had been healthy, have become the reverse on changing houses or situations; as in the opposite cases, that they have recovered health by change of residence. Of such facts as these there is no observer who must not be able to recollect numerous examples." Again, "If a gravelly soil is healthy, it is because its easy drainage prevents the growth of that particular vegetation which is the cause of malaria; and if a clayey soil is the reverse, it is because by lodging superficial water it generates, however partially, those marshy or undrained spots, or wet woods or moist meadows, which are the sources of *this poison*, and consequently of the various diseases confounded under the vague term of unhealthiness."—*Essay*, pp. 19 & 21.

Now, upon this latter passage I may remark, that as water is one of the best radiators of caloric, so all wet, low, and marshy places will be found the most affected by it; and it will follow that any soil whose mechanical texture is such as to allow the water to permeate through it, or to drain off, at the same time that other circumstances combine to arrest the dissipation of heat by radiation, that soil will be found much more salubrious than one retentive of moisture, and particularly if the surface of this latter is covered with low herbage or grass, which is in itself an excellent promoter of terrestrial radiation.

"That woods and jungles in hot countries give origin to miasmata of the worst kind is well known to all medical men; but some doubt may be entertained as to their insalubrity in Europe."—"Dr. Macculloch thinks there is strong reason to believe that close and wet woods generate malaria in this as well as in the warmer countries of Europe. Certain woody districts in Sussex and Kent produce both intermittent and remittent fevers,—at least there is no other assignable cause. The same may be said of some parts of Hampshire and Essex; as about Epping Forest, for example."—"On the other hand, we have positive testimony that lands which were healthy when covered with wood, have become extremely unhealthy when cleared and cultivated."

The thick foliage, as I have elsewhere shown, of the trees composing most of the intertropical forests, and even of some of those also in this country, by obstructing the rays of the sun, preserve in their immediate vicinity a greater degree of stillness and a lower temperature than that attained by the atmosphere over the contiguous grounds; whence the heated air coming slowly to circulate among the branches of the trees of these forests, becomes cooled, and its vapours developed; and it is these which occasion the diseases of malaria.—"Yet it requires much circumspection," says the Doctor, "in deciding upon the propriety of clearing these grounds with the view of rendering them more salubrious."—And why? Because trees naturally tend to obstruct the force of radiation; and, if planted on a good radiating surface, not so close toge-

* Vide the last section of "A Dissertation on the Nature and Properties of the Malvern Water," &c. &c.

ther as entirely to obstruct the genial influence of moderate warmth from the sun's rays, or to prevent the free circulation of the air, will prove a valuable defence against the appearance of malaria, by counteracting that unequal distribution of temperature which, *I believe*, develops its existence in the air: whereas, if these are cut down and the ground cleared, a good radiating surface becomes immediately exposed, and the dissipation of caloric with its accompanying effects directly ensues.—“A portion of grass-plot,” says Dr. Daniell in his *Meteorological Essays*, “under the protection of a tree or hedge, will generally be found on a clear night to be eight or ten degrees warmer than unsheltered parts; and it is well known to gardeners that less dew and frost are to be found in such situations than in those which are freely exposed.”—Dr. Macculloch in noticing the comparative healthiness of ancient and modern Rome, thought it not unimportant to notice what Theophrastus has stated with regard to the plain of Latium, which this historian says was covered with laurel and myrtle-trees of such a size as to be used in ship-building; and this remark, if terrestrial radiation has any thing to do with the development of malaria, is not so fanciful as one of his reviewers seems to imagine it.* Again, if terrestrial radiation is the cause of the deleterious influence of those effluvia existing in the atmosphere, we are no longer surprised at finding rice-grounds, which are kept in a constant state of wet or moisture during the growth of the plants, prolific in the diseases which malaria occasions.

“Dr. Macculloch is convinced that the minute marshy or swampy spots which occur in thousands of low situations, whether on commons, near woods by road sides, or in innumerable other places where they hardly ever attract notice,—are productive of malaria; though their limited range of action generally renders their power insensible, unless when houses happen to be erected in their vicinity.”—“In how far meadows which cannot be called marshy are capable of producing malaria, is an intricate and entangled question. It appears certain, however, that there are many tracts of meadow or of alluvial land not marshy, and often not intersected by ditches, at least in a conspicuous manner, which are the sources of malaria all over Europe.” *Essay*, p. 69.—“Such is the case with all the alluvial tracts at the entrances and sometimes at the exits of the lakes of Switzerland and elsewhere; and in places innumerable where there is no proper marsh, nor even an approach to such a character, but where the prevalent diseases must be owing to malaria.”—“Volney, while travelling in America, has averred that every valley in the country which he visited produced the fevers of malaria, enumerating among the sources of this poison not only marshes and wood, but rivers, millponds, &c.”—“The meadow lands about Fontainebleau,

at the junction of the Yonne and the Seine, are notorious for the *fièvre du pays*; so injurious are they, that few escape intermittents or remittents over a considerable tract.” If some great portions of the meadow land in England have been recovered by drainage from a state of marsh, and are now as dry as the ordinary low-lands of plains and valleys; and if these localities still produce malaria and its consequences,—it is another point of evidence against the salubrity of meadows generally. “It is a rooted opinion in England, that there can be no malaria on the banks of a running stream; and as far as mountain-torrents are concerned, this is probably true: but where rivers slowly meander through low grounds, we must not trust to the mere motion of the water.”—“For whatever persons may still think as to rivers in general in our own country, there is no doubt that such streams as the Ouse, the Lee, and all others flowing with difficulty through fertile meadows, and with a flat vegetable margin, are productive of malaria.”

But not to occupy more than necessary the time of the reader by quoting further from Dr. Macculloch's *Essay*, I shall only observe that this author has found “small streams bordered by thin and grassy margins; tranquil and stagnant waters, especially in hot countries; and ponds occupying but a small space,—to be productive of ‘evening mists,’ the results of which are autumnal and intermittent fevers.” And is not the *terrestrial radiation of caloric*, I would here ask, the cause of those evening mists which favour the attacks of these disorders? Indeed it is remarkable to find that every locality pointed out by the Doctor as productive of malaria, will be found to possess one or other of those circumstances which promote the dissipation of heat from the ground. It has long been known that water and a grassy surface are excellent radiators of caloric; and the effects of this process—fogs, damps and dew—were observed long before the cause of them was properly understood. “A valley,” says Mr. Daniell,* “is more liable to the effects of radiation, than the tops or sides of hills; and it is a well-known fact that dew and hoar-frost are always more abundant in the former than in the latter situations. The influence of high hills is, however, often prejudicial to the valleys at their feet; for the condensed and moist air rolls down their sides, and lodges at the bottom: these, therefore, are protected from the chill, while a double portion falls upon what many are apt to consider the more sheltered situation. It is a very old remark, that the injurious effects of cold occur chiefly in hollow places, and that frosts are less severe upon hills than upon the neighbouring plains: and it is consistent with my own observations, that the leaves of the vine, the walnut tree, and the succulent shoots of Dahlias and potatoes, are often destroyed by frosts in the sheltered

* *Medico-Chirurgical Review*, Jan. 1828.

* *Meteorological Essays and Observations*.

valleys, on nights when they are perfectly untouched upon the surrounding eminences." The diminution of temperature which is produced upon the surface of radiating bodies during the night is communicated by slow degrees to the surrounding atmosphere; and if the process goes on for any considerable period, moisture and probably other matters are not only deposited upon them, but are precipitated in the air itself, affecting more or less the feelings of every one within its range, but particularly the weak or unhealthy.

One of the chief arguments in favour of the important influence exerted by terrestrial radiation in the production of that state of the atmosphere favourable to the attacks of disease, and known by the name of malaria, is drawn from the fact that in almost, nay I might say every case, where the violence of the symptoms induced by it will permit us to observe the *first impressions* which it causes, we find that its baneful influence is exerted during the night-season, while in the day-time it is comparatively, if not quite, inert. It would be needless to reiterate here the numerous proofs of this, distributed among the writings of those many accurate observers who have been at the pains of noticing the habitudes of malaria. I shall content myself, therefore, with quoting only Dr. Ferguson, who observes in his *History of the Marsh Poison*, "that the rarifying heat of the sun dispels miasms which create fevers and violent diseases, and that it is only during the cooler temperature of the night, that they acquire body, concentration, and power."

Now surely any miasmatic effluvia liberated from exposed vegeto-animal or other matters by the rays of the sun, must exist in the atmosphere as much if not more during the day-season than in the night; for it is more than probable that nothing is *given up by the ground* after sun-set. How is it then, we may ask, that the great potency of malaria at night, and its comparative harmlessness during the day, have so constantly forced themselves upon our notice? Is it not because the air during the former period is cooled by radiation and rendered incapable of retaining those matters which the warmer air of the day-time held in perfect solution? A still atmosphere containing miasmatic matters, therefore, becomes dangerous to health in proportion as it reaches, by a gradual reduction of temperature, such as ensues from radiation, its dew point: for during the period when its temperature is elevated above this point, the malarious matter is without any, or of but little injurious agency; while the nearer it approaches the point at which moisture will be liberated from it, the more those extraneous matters it may contain become developed, as is fully shown by the much greater potency of odours at that period, of which numerous instances might here be mentioned; but it will be sufficient to recall what every one must have observed during the summer months: after a hot day, if the air at night remains still, or is favourable to the process of

radiation, it is truly astonishing how far odours will diffuse themselves, and how powerful they generally are: a few hours after sun-set, on evenings favourable to the deposition of dew, many effluvia become very perceptible, and are potent and concentrated in proportion to the stillness of the air and its approach to the *dew point*. Winds, although they very often cause considerable reductions of temperature, are not so prejudicial, or so frequently productive of ill effects upon the human body, as those abstractions of caloric resulting from radiation; and for this reason,—because in the former instance the morbid particles are dispersed, and so diluted by the aerial currents as to be rendered incapable of exercising any injurious influence upon the body, or only upon such as are rendered extremely sensible to the exciting causes of disease; whereas in the latter instance they become often greatly accumulated, and so highly prejudicial, that few escape.

In this country the pernicious nature of the morning and evening mists formed over low grounds has been observed, and in hotter climates I need scarcely say that their influence in generating fever is as notorious as any of the best established facts on this subject; and the progress of the sun upwards being a remedy for the morning mists, and the day altogether for those of the night, seems to confirm the opinion, that a watery and moist atmosphere is the active conductor or repository of malaria; and that when the former is dissipated, the latter is checked in its progress; when the one is entirely dispersed, the other may be destroyed: so that the matter of malaria seems to be defined as to its place and extent by vapour and mist.*

That the diseases arising from miasmata in the air do sometimes cease in a definite and sudden line, and terminate also at particular altitudes, has often been observed and recorded; and these remarkable instances cannot be satisfactorily explained upon any other supposition than that afforded by the *radiation of caloric*. To explain their cessation in the former instance, we may remark, that that depression of temperature which ensues at night over a good radiating surface, may be sufficient to render active the miasms existing in the air; while over others, less powerful in the dissipation of caloric, the depression of temperature may not be sufficient; and it is probable that in many cases an atmosphere rendered prejudicial by the one, is again made innoxious by passing over the other. With respect to altitude, I have before shown that slight elevations are frequently a protection against the heavy miasmatic air which subsides to the lowest situations.

But to place this important subject in the clearest possible light, let me endeavour (by an appeal to some well-known chemical facts) to set forth the nature of the connexion ex-

* *Vide* Macculloch's Essay, pp. 259 and 274.

isting between free caloric and the matter of malaria. Let us suppose that the former exerts over the latter an influence analogous to that exercised by an *acid* over an *alkali* (neutralizing its qualities and destroying its effects,) and we shall immediately perceive that the mere presence of malarious matters in the air may not be sufficient to excite in the human body a state of disorder or disease: carry the reasoning a little further, and then we can fully understand the way in which *radiation* proves injurious. Are we not warranted in concluding, from those facts which observation and experience have discovered to us, that similar phenomena are exhibited in the relations subsisting between the matter of heat and miasmatic effluvia, as we witness among the various combinations of the chemical world? Withdraw one of the elements of a binary compound, and the other becomes immediately apparent, and is developed with all those potent qualities which had been destroyed or neutralized whilst in union. So miasmatic matters are inert while fixed to the ground, from which they can arise only in conjunction with caloric; and as long as they continue together no ill effects ensue: but diminish the temperature, or, in other words, take away the caloric, and the injurious qualities of the miasms immediately become apparent. It may be objected, that if the injurious agency of miasmata in the air results from the mere abstraction of heat, no reduction of temperature could ensue without the production of malaria.—But this is not true; for we may justly suppose that in a great majority of cases there is not sufficient noxious matter on the ground to saturate—if I may be allowed the term—the caloric existing in the air, and therefore that in these instances great reductions of temperature may take place without any appearance of malaria, in the same manner as (to carry on the analogy drawn from chemical combinations) we can detach a portion of the acid from a supersaturated salt, without developing the existence or qualities of the alkali. On the other hand, the miasmatic source may sometimes afford a supply amply sufficient to satisfy even a very high temperature; and then any trifling escape of caloric will be accompanied with an injurious precipitation: and if the cooling process continues, a highly noxious malaria will result.

It has been observed, that very often the diseases arising from malaria ensue upon the temperature of a place reaching a certain point; that they increase in frequency and violence as the heat increases, but diminish as the mean temperature falls. These facts are not at all irreconcilable with the phenomena of *radiation*; for in these cases we may justly suppose, that at the higher temperatures malarious matter is liberated from the soil, the quantity of which is greater in proportion to the thermometric rise, while the lower temperatures are not sufficient to liberate any quantity of the noxious effluvia and diffuse it through the air: in the former

case the radiation of caloric will be attended with disease, in the latter it will not.

I might here relate many facts tending to show the intimate connexion which subsists between caloric and miasmatic effluvia, but I conceive that what has been here stated will be ample to establish this point, as well as the fact that the latter become virulent in proportion to the abstraction of the former by the process of radiation.

In conclusion, I shall briefly point out the importance of the foregoing observations, if they shall be found correct, towards the attainment of that desirable end, *the protection of mankind against the injurious impregnations of the air*.

As regards the prevention of the rise of miasms from the ground, I fear we have too little control over the powerful agency of the rays of the sun to adopt successfully any plan with reference to this head. The solar influence is too great and too general to enable us to obstruct the emanation of various effluvia from the soil: nevertheless, much may be done by removing as far as possible from the surface of the ground any thing likely to afford them; and although our endeavours on this point must be very inefficient, they may be more successful and beneficial if directed to obviate those conditions which, as we have seen, have such a considerable effect in rendering active the noxious properties of malaria; viz. 1st, by preventing the dissipation of caloric through a still atmosphere; and, 2dly, by promoting those aerial currents which tend so much to dilute and carry off any deposition which may ensue from that process.

In order to accomplish the former of these indications, we must use every means in our power to diminish the radiation of heat from the ground after sun-set, or to remove as far as possible from the circle of its operation, by attaining during the night-season some moderate elevation, interspersed here and there with lofty trees, and hedges or inclosures, and placed to windward of the more rapidly radiating surfaces which may be near: for although we speak of a calm and still atmosphere as being highly favourable to the development of malaria, still it must be understood that in almost every instance there are gentle, although perhaps imperceptible currents in the air, fully sufficient to waft to a considerable distance the miasms liberated by the dissipation of caloric; and any increase of temperature which such currents may acquire in their passage over less perfect radiators, will not always be enough to disarm them of their injurious influence. In situations therefore more particularly, where we are likely to be subjected to miasmatic products, and where the air at night is generally still, or where the gentle breezes are found to sweep over tracts favourable to radiation, it behoves us to endeavour,—by exciting artificially aerial currents, and by raising or keeping up the temperature of the air of the place where we may be by circumstances constrained to remain,—to prevent the deposition and development of

malaria. This may be accomplished by lighting *large fires* to windward of the place of our nightly sojourn.—This is not a new idea: fires have already been observed to be beneficial in warding off the noxious power of malaria, though the principle upon which they act has not been properly understood, and consequently they have never been employed to the best advantage for this purpose. Dr. Macculloch relates a very important case, where a superintendent engaged in directing the cutting of wood in Africa, erected thirty earthen furnaces on the spot where his men were employed, lighting them every day. Before this, he had always from forty to forty-eight of his workmen sick; when in a short time they were reduced to twelve, then to four, and finally to one. Napoleon adopted the same expedient very largely, and with success, when his armies were occupied in the very worst district of Italy.* Knowing the principle of their operation, I should recommend them to be lighted at sun-set, and to be allowed to burn until sun-rise, having a regard to their position as pointed out in the foregoing remarks. Where large numbers of human beings are congregated together, as in armies, camps, &c., and where their situation at night is too often determined by other circumstances than salubrity, the value of these observations, with the knowledge of the principles which should direct their application, cannot but be very apparent.

It will be easily seen, from what has already been said, that fires as defences against malaria will be much more necessary during the nocturnal period than at any other; and even at this season, when the wind is blowing strongly and the night is overcast, they will not be so much required as when the air is clear and still.—It is not my intention to speak here of those various extraneous circumstances which render the body more susceptible of injurious influences at night than during the day,—such as bodily and mental exhaustion, sleep and diminished temperature; nevertheless they are well worthy of our serious regard, as co-operating powerfully with noxious miasmata in producing a state of disease.

From the Edinburgh Medical and Surgical Journal.

ESSAY ON THE NATURE OF INFLAMMATION. By JAMES SYME, Esq. F. R. C. Surgeons, Lecturer on Anatomy and Surgery, &c.

After so much has been said and written on the subject of inflammation, it may seem presumptuous in me to attempt any new exposition of its nature within the narrow limit afforded by a periodical publication. Nevertheless, having often had occasion to regret the difficulty and disheartening uncertainty which meet young men at their very outset in surgical study, owing to the perplexing and con-

flicting doctrines which are taught respecting this fundamental part of their professional knowledge, and having succeeded in giving a view of it which has proved not only easy and intelligible, but also extremely useful as a preparation for the pathological and practical instructions which it preceded, I think it my duty to publish a short statement of the opinions in question, for the benefit of those to whom I have not the honour of addressing them in my lectures.

One of the principal sources of the difficulty and confusion which distinguish inflammation is, I believe, the very various use that has been made of this term. Sometimes it is understood to express that condition of a part in which it is red, hot, swelled, and painful; at other times it is employed to denote the peculiar action which occasions the formation of pus,—or causes absorption,—or pours out dropsical effusion,—or unites surfaces by the exudation and organization of lymph,—or produces new structures, such as scirrhus.

It is quite evident, that, when inflammation is used in so extensive a sense, it becomes nearly synonymous with disease, and ceases to be serviceable in expressing any particular condition of the nutrient, or, as it is called by others, the capillary apparatus. I must beg it, therefore, to be distinctly understood, that I will use the term inflammation merely to imply that condition of a part in which its natural actions are more or less completely suspended; and there are not established any new ones that alter its structure or produce new secretions. This condition, which is usually attended with redness, heat, and pain, almost always intervenes between the healthy actions of organs, and those morbid ones which alter their structure by separating from the blood matters that differ in quantity or quality from those naturally existing.

In investigating the nature of inflammation, it seems to me that too much attention has been directed to its obvious signs, viz. redness, heat, swelling, and pain; and too little bestowed on the other character above mentioned, viz. alteration of the natural action. The former are not only seldom all appreciable, but also very variable in their degree, and even in their existence, so that no one of them can be considered essential; and three of them, viz. redness, heat, and swelling, attend another very different condition of the capillary apparatus, viz. excitement; while the latter invariably attends inflammation—can generally be ascertained—and indeed is often its only symptom. Whatever be the function performed during health, it is perverted or suspended as soon as its organ becomes inflamed. Thus the stomach ceases to digest—the kidney to secrete healthy urine—the retina to receive the impressions of light—the muscles to contract—and if the part perform no living office excepting its own nutrition, there is here also a change, the first visible sign of which is, that the arterial blood is no longer converted into venous. Now, if this remarkable character of inflammation had been kept in mind, pa-

* Macculloch's Essay, p. 286.

thologists would hardly have spent so much labour in disputing about contraction and dilatation of the vessels, since it is obvious that mere difference of capacity, though it might to a certain extent account for the redness and swelling, could never enable us to explain the alteration of function, any more than a knowledge of the size of capillary vessels could instruct us as to the mode in which their secretions, &c. are performed during health. But even granting that the change in appearance is all that requires to be explained in inflammation, I think it might be easily shown that the theories hitherto adopted, and doctrines founded upon them, are quite insufficient for the purpose.

Though Harvey and his immediate converts naturally enough attributed the circulation of the blood to the power of the heart exclusively, it has been long determined by physiologists that there must be some other agent. Indeed, when we reflect on the variable force with which the blood moves over the system—sometimes running to this organ, sometimes to that one—to the muscles—to the brain—to the stomach—to the organs of generation, &c. it is impossible to believe that the whole mass of fluid owes its motion to one impulse.

In accounting for the additional agent which it is thus necessary to admit, physiologists first directed their attention to the arteries, and attempted to prove, by analogy between the appearance of the middle coat of these vessels and that of the intestinal tube—by observation of their capacity at different times, and under different circumstances—and by the effect of irritants, chemical and mechanical—that they possessed a contractile power, not only elastic but irritable. I certainly think that the circular fibres of arteries more nearly resemble the elastic tissue than any other in the system; but as I am far from holding that muscular structure is essential to irritable contractibility, and as a very fair case has unquestionably been made out in favour of their possessing this power, I am willing to admit that they possess it. Unless the arteries dilate in proportion to their alleged contraction, it is plain that the quantity of blood transmitted through any part of them so affected will be diminished, instead of being increased. Those, therefore, who advocate the motive power of arteries assume that they do dilate proportionally. But this assumption is altogether gratuitous, since the only contraction of these vessels, for which there is any respectable evidence, occurs slowly and gradually, not appearing sometimes until several hours have elapsed after the operation of those circumstances which are supposed to induce it, and not suffering any sudden remission. But even granting that the arteries possess this alternate action, shall we then be able to account for the circulation through bone, or understand how it goes on when the arteries are ossified or converted into rigid tubes by the deposition of calcareous matter in their coats, that common or rather usual occurrence of old age? There are many more objections which

might be urged against the motive power attributed to the arteries. Some of these I shall have to mention by and by. In the meantime enough has been said to show that the existence of the power in question is assumed without proper evidence, and that, even if it did exist, it would be insufficient for the effect attributed to it.

The next accessory power I shall notice is that so ably advocated by Drs. Carson, Barry, &c. viz. the pressure of the atmosphere. Not to enter into any formal argument against this ingenious, but, in my opinion, very frail theory, I will merely observe—what is a sufficient objection to it in respect to our present purpose—that it does not account for the fact of local determination, since the sucking power of the heart, if it exist, must, like the propelling one, act on the whole mass of blood.

The heart and great vessels then being inadequate to carry on the circulation, we must next inquire how far the capillaries are concerned.

To prove that there is a motive power resident in the capillaries, it is sufficient, after what has been said, to show that the blood occasionally flows in larger quantity and with greater force to particular portions of the system. But this is an occurrence so frequent and well known as to require no illustration. We see instances of it continually, from the slight and passing tide of shame, or the more permanent erythematous blush which instantly follows a severe local irritation, as the actual cautery, to the steady and exhausting flow which nourishes some monstrous growth at the expense of the rest of the body. If farther evidence were required to prove the existence of this power in the capillaries, I might appeal to the facts of absorption, to the motion of the blood in animals which have no heart, to the circulation of the fœtus, or to the ascent of the sap in plants; and if there should still be any doubt, I would then bring forward the *experimentum crucis* of cutting out the heart of an animal, and examining the capillary circulation with the assistance of a microscope. I have repeatedly seen the globules continue in motion through the capillaries of a frog for forty minutes after the whole heart was excised. And this motion was not uniform either as to direction or velocity, in which case the gradual contraction of the large vessels might have been supposed adequate to account for it—but sometimes this way, sometimes that—at one time quick, at another slow—and always continuing quickest as well as longest in the smallest vessels—while in health the motion of the blood is slowest in the capillaries.

What is the nature of this power? Is it muscular or some other sort of contractility, as almost all physiologists tell us? The same objection applies here as in the case of the arteries. The existence of such a power is altogether matter of assumption. If it is constant it ought to lessen the quantity of blood transmitted, and if it alternates with dilatation, the contents of the vein ought to move in succes-

sive undulations. In this case also we ought to discern through the microscope not only a change in the capacity of the capillaries, but an oscillatory movement of the globules passing through them. Instead of this, we see the capillaries apparently quite rigid and immovable, while the globules shoot through them in such a free unconstrained manner, as to convince every unprejudiced observer that they are not impelled by a *vis a tergo*. If we attribute the capillary movement to contraction of the vessels, how can we account for absorption in the circulation of plants?

But granting that the power of the capillaries depends on contractility, how shall we account for the obvious phenomena of inflammation? If we suppose that in inflammation the actions of the part are increased, there ought to be contraction or paleness instead of swelling and redness; wherefore, Allan, Vacca, W. Philip, Hastings, &c. have told us, that inflammation must depend on debility, since the vessels are larger, and therefore weakened in their contractile power. But by parity of reasoning the common state of excitement must be debility.

I think then it will be allowed, that even supposing it were sufficient in explaining inflammation to account for the obvious symptoms of redness and swelling, it is impossible to do so satisfactorily, on the grounds that the circulation of the blood is owing to contractile power of the vascular system, whether it is thought to reside in the heart, arteries, capillaries, or all of these together. But returning to my original position, I maintain that redness and swelling ought to be secondary considerations in the investigation of the inflammatory state, in comparison with the grand distinguishing character of *altered function*. It is obvious that the explanation of this important symptom, requires a previous knowledge of the mode in which the actions are performed during health. This we do not, and probably never will possess. Next to knowing what a thing is, however, it is desirable to know what it is not; and I think it may be concluded, without rashness, that the various secretions, the evolution of heat, the conversion of arterial into venous blood, the nutrition of the tissues, or the functions of digestion, sensation, and muscular contraction, are not owing to a difference in the capacity of capillary vessels, or any difference in their mechanical condition. We must ascribe the processes in question to the agency of life; and if we do this, there can be little objection to calling in the same power to account for the motion of the blood also.

Digestion was formerly attributed to a mechanical power of the stomach, but experiment and observation having proved that it possessed little or no grinding properties, the function in question was referred to a chemical operation. And when it was found that the gastric juice differed from all chemical agents, in acting equally on the most dissimilar substances, and in wanting all the characters which accompany chemical activity, physiolo-

gists were obliged to humble themselves in their ignorance, and refer digestion to the power of life. By the same way we have come to the conviction that muscular contraction is owing neither to chemical explosions, nor to mechanical expansions, but to the power of life. Now, it seems to me that we have no less reason to ascribe the capillary circulation to the same power. We cannot explain it satisfactorily by referring it to any others that we choose to assume; we have proof that this one exists, then why should we hesitate? It may be said that we cannot conceive how the power of life induces the blood to move. Can any one explain how galvanism induces fluids to move? I believe not; and yet the experiments of Reuss, together with the more recent and still more satisfactory researches of Dutrochet, have ascertained, that if two portions of fluid be connected with the two poles of a galvanic battery, one will move towards the other through a considerable obstacle,—as a thick mass of clay, a compact membrane, as a bladder. Life resembles galvanism in many of its properties,—it subverts chemical combinations,—it induces muscular contractions,—and why should it not also have a motive power over fluids?

If we attribute the capillary circulation to the power of life,—to the same power, namely, which all agree causes the various changes nutritive and functional that occur in these vessels,—then the state of inflamed parts will admit of an explanation somewhat more consistent than that usually given.

The life or nervous energy of a part being disturbed, the usual actions or changes which result from it in health are suspended or perverted; and we observe an alteration in its nutrition, in its function, and in its circulation.

From the London Medical and Physical Journal.

ON THE PROXIMATE CAUSE OF INFLAMMATION. By Dr. Bow.

With regard to the proximate cause of inflammation, I may say I am a believer in the doctrine which acknowledges diminished action in the capillaries. The objections to it, which by some are thought to be insurmountable, appear to me easy of explanation, and which never could have arisen had the advocates of the doctrine been a little less exclusive. Mere diminished action in the capillaries cannot account for all the symptoms which characterize inflammation; besides, what is there in this hypothesis to account for the diminished action itself?

Diminished action of the capillaries can only be the result of previous over-excitement, by which their contractility is exhausted on the result of sudden abstraction of this power. We know it is not the consequence of the former, but in all likelihood it is of the latter.

You are aware I maintain that, if there be a determination of nervous influence to a part greater than natural, there will be a corres-

ponding deficiency in its determination elsewhere. As soon as the remote cause of inflammation is applied, there is a transmission of nervous influence in excess to the part: this cause acts upon the sentient nerves; consequently to their extremities is this excess of nervous influence transmitted. The office of sentient nerves is neither that of conveying contractility to muscular fibre, nor of that modification of nervous influence which effects the secretion; so that, although there be a greater than natural determination of influence to the part, there is neither an increase in the action of the capillaries, nor in the products of secretion. On the contrary, there is diminished action and defective secretion; for almost all the influence of the part is directed through the channel of sentient nerves. As soon as the capillaries are thus robbed of nervous influence, in which consists their contractility, they can no longer resist the influx of blood; and those of them whose office it was to carry colourless fluid become now distended with blood; hence the increased redness and swelling. This distention, in its turn, becomes an additional source of irritation, and thus, from a mere puncture, will inflammation spread around.

If this view of the proximate cause of inflammation be correct, it is sufficiently simple; and, with similar notions of nervous action, may we not attempt to explain many phenomena which yet puzzle the physiologist. The blush of shame or of modesty is caused by a sudden determination of nervous influence to the extremities of the sentient nerves of the face: they become, if I may so express myself, positively excited at the expense of those nerves in their vicinity whose functions are contractility and secretion: thus the capillaries, from the loss of their contractility, are suddenly distended; hence the phenomenon. As the sensation which created the blush subsides, the balance in the distribution of nervous influence is restored, and with it the proper functions of the part are renewed.

At the age of puberty, those changes in the body which have been attributed to sympathy may likewise be accounted for. At this age, genitalia evolvuntur, mammae efflorescunt; yet this change does not result from increased action in the vascular construction of the parts, but rather from diminished contractility, following an increased determination of nervous influence to the sentient nerves, caused by the perception of sensations before unknown.

Many of the phenomena attending pregnancy may be referred to a partial loss of contractility, owing to the demand of nervous influence created by the new action of the uterus. The mammae swell in consequence, and they do not return to their former size after parturition, because the nervous influence which before was transmitted to the uterus is now directed to the secretory nerves of the breast. When lactation ceases, however, then is the balance in the distribution of nervous influence restored; the vascular con-

struction of the mammae regains its contractility, and they diminish in size.

A thousand other phenomena may be explained in like manner, especially those observed in erectile tissues.

From the London Medical Gazette.

ESSAYS ON SYPHILIS. By JOHN BACOT, lately Surgeon to the First Regiment of Guards.

[Continued from page 53.]

Of the Nature and Effects of the Syphilitic Poison.

We are fortunately not called upon in these days to enter into a disquisition concerning the essential nature of the venereal virus; nevertheless it has occupied the attention of medical practitioners from age to age, and has invariably suffered the fate of the medical theory of the time. It has been described as a peculiar ferment—as an acid, an alkali, and as a nondescript kind of mechanical power; nay, even the particular tissue in which its ravages first commence has occupied the attention and excited the industry of no less a man than Boerhaave. I shall, however, content myself with making a few inquiries into the effects of this poison, and the laws which regulate its action, as far as we are acquainted with them. It may be expected, perhaps, that I should define what I mean by the term; but, lest I should be shipwrecked upon the same rock that has been so fatal to those who have attempted to include within a few words the substance of many complicated actions, I shall attempt no definition at all, but content myself with saying that the poison of syphilis is one *sui generis*, affecting the human race only, and subject to laws differing materially, in many respects, from those which regulate other morbid poisons; among which differences, that of being communicated an indefinite number of times is not the least considerable.

Mr. Hunter has very justly remarked that we know nothing of the nature of the venereal virus; but from its effects we know that it is a specific poison, which, applied in a fluid state, is capable of producing a disease so far similar that it may be communicated again and again, with the effect of eventually leading to certain trains of secondary symptoms, affecting different portions of the system, through the medium of absorption. Though the commerce between the sexes is the usual made by which the disease is propagated, yet it must be recollected that the positive application of the virus to an abraded surface in any other part of the body, as well as the genitals, will lead to the contamination of the system; and thus four modes of infection may be readily admitted—first, by the virus being applied to a recent wound; secondly, to the surface of a common ulcer; thirdly, to a secreting surface; and, fourthly, to a non-secreting surface; and there are good grounds for believing that in

each of these modes of application a different space of time will be required to bring the poison into action—for example, a syphilitic sore on the glans and internal prepuce will more speedily and readily take place, and within a shorter space of time after the application of the poison, than on the common integument covering the body of the penis. It does not necessarily follow that the application of the venereal poison should be followed by the specific irritation in the person to whom it is applied, any more than that the small-pox, or cow-pock, should invariably be communicated by the first inoculation: we know that common inflammation will sometimes supersede the specific action; and matter either shall not be secreted at all, or of a nature perfectly innocuous; and thus it happens, that of several persons exposed to the same chance of infection one shall escape entirely, another shall have a sore which heals without difficulty, a third shall have a train of consecutive symptoms from the absorption of the poison: Peculiar idiosyncrasy is here very evident, and in more than one instance I have met with persons who, without taking any extraordinary precautions, have been exposed over and over again to the same chances of infection by which their comrades have suffered, and yet who have always escaped with impunity. In an inferior degree this is to be met with every day, for we frequently find that the system exerts a power of resisting this disease, as well as others, for a long time; but that the lapse of a few years changes the susceptibility of the constitution, and then the poison produces its usual effects.

Until lately it was believed that the venereal disease, when once communicated, pursued a regularly progressive course through the different orders of parts upon which its specific action is exerted, and that without the interference of art it went on to the destruction of life. We have now ample proof that this is not always, nor indeed generally the case; and the knowledge of this fact clears up many of the difficulties in which the subject was previously involved, and enables us to dispense with Mr. Hunter's theoretical explanation, that though mercury could cure the disease when in action it could not cure the disposition to it: in other words, as Mr. Guthrie has very shrewdly observed, nothing will prevent the disease from running its course in certain constitutions. We now know, at least as far as a very extensive field of experiment entitles us to adopt the opinion, that the venereal disease can wear itself out by the mere efforts of nature; that the affections of the periosteum and bones are of but comparatively rare occurrence; and that no set of symptoms require greater nicety of judgment in their treatment than these, since there is great reason to believe that the complaint in these cases is complicated with some peculiar habit of the constitution—most commonly struma; and it is precisely in such cases that the profuse exhibition of mercury has produced such dreadful examples of mutilation and suffering.

Of the parts affected by the venereal poison, when acting upon the system generally, the skin and the throat are the first in order; then the fascia, periosteum, and bones. There is no reason to believe that the viscera are ever subject to the attacks of syphilis; and of the soft bones, those of the palate and nose are the most frequently affected; of the long bones, the tibia; and the cranium is likewise frequently the seat of tumefaction, or painful enlargement of the periosteum and bone.

I have ventured to hint that the greater or less degree of acrimony in the poison may possibly contribute to alter the appearance and character of the primary sore: the word acrimony may perhaps be objected to, and with justice; but I merely employ it to express some peculiar state or stage of ulceration, the matter of which may possess properties of more violence at one time than another. Thus in cow-pock the substitution of matter for lymph, the delay of even a day or two in the inoculation, deranges the whole course of the disease; and it is not impossible also that it is owing to some similar circumstance that the propagation of one particular kind of sore is performed with so much difficulty. Thus Mr. Evans could not succeed in transmitting the ulcer which he calls the *ulcus induratum*, though he observes that the common raised ulcer may put on this appearance, which raised ulcer he has been repeatedly enabled to propagate in this manner.

With respect to the length of time which may elapse between the application of the virus and the establishment of the primary sore, a great difference of opinion has existed: there are good reasons for believing that, under certain circumstances, it may be delayed for some weeks, or that it may take place within 24 or 36 hours. The part to which the poison is applied will certainly make much difference; and general causes, such as excesses, fatigue, friction of the part by exercise, &c. may develop it sooner than it would otherwise have arisen without those additional provocatives. Thus far with regard to the primary symptoms: those which are called secondary, or constitutional, have been the subject of even much more discussion: there have not been wanting authors who have expressed their belief that the symptoms of syphilis might lie dormant in the system for even 30 years; and, indeed, until very lately this opinion, though restricted in some degree, has been carried to a most absurd length. It has often happened that anomalous pains, eruptions not perfectly understood, single symptoms, such as partial paralysis, premature baldness, &c. have been looked upon as unequivocal evidences of a former venereal infection; and without recurring to medical authorities I shall mention that the celebrated Sterne, in one of his letters, tells his friend that the physicians whom he consulted insisted upon his symptoms being venereal, although at that time he declared to them he had not had connexion with a woman for 15 years. I am not, however, able to assert positively, nor to draw a very well defined line, as

to the period of time in which constitutional affections may develop themselves: a few months have been generally sufficient in those modern experiments to which I have had occasion to revert so often; and with regard to eruptions upon the skin, and ulcerations of the tonsils, I should be little disposed to believe, if I even met with them after the lapse of two or three years, that they were the results of a sore contracted at so distant a period. Although I might not be able accurately to trace the history, I should not be the less inclined to treat them according to the belief of their nature; because the motives of deception in these cases are so numerous and so strong that it is hardly possible, on all occasions, to expect to arrive at the truth. This leads me to make an observation on a difficulty which has arisen in the explanation of some few cases of the venereal disease in which the symptoms are at variance with the acknowledged history, thus throwing a doubt over the usual belief of the disease originating in sexual connexion. The histories of this kind are not numerous, it is true—scarcely, I think, occurring so frequently as to raise any reasonable objection against the position generally admitted; and I should rather be inclined to attribute them either to mistake, or to the obvious motives which may induce men to conceal what is disgraceful to them, than be obliged to believe that what is not true of any other disease may be found so when applied to syphilis. Nevertheless it is my duty to tell you that there are authorities, and those of no mean consideration, who believe that the constitution may become affected without any previous breach of surface, or from a bubo solely, by the communication of the secondary symptoms from one person to another, merely by their sleeping together in the same bed. Swediaur tells a story of this kind; but the whole course of a very long and extensive practice only afforded him this one case; and, for my own part, I freely avow my belief that there was some deception practised in that instance. Respecting the contamination of the system from a bubo only, though I doubt the fact, I am not prepared absolutely to deny it; but it will be necessary to defer any explanation of the mode of treating such a case until I come to speak of particular symptoms.

Two cases are related by Mr. Abernethy in which married men, having ulcers on the penis, which they asserted not to be the produce of impure connexion, communicated similar ulcerations to their wives, and symptoms resembling those of secondary syphilis ensued; and Mr. Rose tells us that, in three instances, he has known husbands communicating the disease to their wives, and in two of those instances he was not able to ascertain that there had existed any sore subsequent to marriage. Now upon such cases I would observe that there are so many motives for deception, where married persons are concerned, that nothing short of the strongest evidence should satisfy me of the possibility of such an occurrence: it is contrary to all analogy—it is con-

trary to the belief, the experience, and even the feelings, of the bulk of mankind; and if it were founded on facts not one or two solitary cases would be met with, but the marriage state would afford us repeated evidences of such a mode of contamination. That a married man may have a breach of surface on the penis as well as elsewhere, and that he may communicate to his wife, by coition, some similar condition of ulceration, there can be no doubt; but, unless the specific poison of lues be present, I believe that the local evil would be the termination of the disorder. It may, indeed, happen that a man may enter into a matrimonial engagement some weeks, or a month or two after having been apparently cured of a syphilitic ulcer, and that the imperfect cicatrix may again give way, and the disease be propagated in this manner; but if the contrary doctrine were true, where would be the security of the married state? Let any man look round among that class of society where the moral duties of domestic life are most commonly adhered to, and he will be convinced that such occurrences not only do not take place but are not even suspected.

In truth, the only circumstance that seems to favour this assertion is the difficulty that attends the explanation of the mode in which the fœtus in utero becomes affected: but this is a question totally distinct, and will engage our attention hereafter.

Should what I have above urged, however, fail of producing the same conviction upon others which it has affected upon my own mind, I must beg to call their attention to the following passage in the work of a late eminent surgeon, and upon this I would rest my case:—

“Almost every department of physical science,” he observes, “contains propositions which require exceptions, or against which objections may be brought that scarcely admit of a satisfactory solution. Yet, notwithstanding these, philosophers do not suppose it necessary to abandon duly verified axioms because a few phenomena not perfectly understood seem to militate against them. He who shall discard all general rules because they admit exceptions, ought likewise, for the sake of consistency, to renounce all science because human knowledge is fallible and imperfect.”

I am now about to present you with the arguments which have long continued to agitate the profession respecting the identity of the poisons of gonorrhœa and syphilis, a belief which, however, has not had so much influence upon practice as might have been expected, even in those who entertain that opinion: it is, however, an inquiry not only highly interesting in itself, but leads, in fact, to many useful deductions, when placed upon a proper foundation. It may be thought strange that those acquainted with the history of syphilis, and who, whilst they acknowledge it to be a disease comparatively modern, at the same time admit that gonorrhœa was known from the earliest ages, should still adhere to the opinion of the poisons being one and the same;

yet such is the fact—for upon this point both Mr. Hunter and his fierce opponent, Mr. Foot, are agreed: and their authority is farther supported by that of Swediaur and John Howard; and I hope to be able to convince you, that although this doctrine is not to be acceded to in its fullest extent, that they have more reason upon their side of the question than might be at first supposed.

The word gonorrhœa, derived from the Greek, and which literally means a flow of semen, is perhaps as badly chosen to denote the disease to which it is now applied as can well be: yet, as every body now understands what is meant by it, it is unnecessary to propose any change—and the more especially as no name has yet been suggested to which some plausible objection might not be made.

In former ages the term *arsura* seems to have been commonly applied to it: in the old English authors it is known by the name of *brenning*, or *burning*, which is, in fact, a translation of the Latin word just mentioned; whilst, in France, for the same reason, it has been called *chaud-pisse*, but now more recently *catarrhe urethrale*. Our common English name, *clap*, is derived from the French language, in which *clapiers* meant certain fixed places for the residence of common prostitutes: of late years, Swediaur has invented the word *blenorrhagia* for this disease, as implying a flow of mucus, but there does not appear any substantial reason for substituting this instead of the term commonly employed. Finally, in Dr. Butter's pamphlet it is designated by the more fanciful appellation of the *venereal rose*. So far respecting the name. The real question as to the identity of the poisons of lues and gonorrhœa lies really in a very narrow compass: it is unequivocally proved that a discharge of purulent matter from the urethra, with heat and pain in making water, was a common disease before the invasion of syphilis, and the only contest is, to decide whether any different form of gonorrhœa was afterwards superadded to that already recognised and acknowledged. To set this question at rest, experiments have been instituted by several surgeons, but unfortunately the conclusions to which they have respectively arrived have left the matter as undecided as at first—those of Mr. Hunter having been flatly contradicted by Mr. Bell. After stating my own conviction upon this point, I will make you acquainted with Mr. Hunter's experiments, together with the many strong facts by which he supports his opinion. In confirmation of his views, several powerful advocates, both foreign and English, soon appeared; and such stubborn facts are recorded by Vigarous, Sawrey, Lagneau, Hennen, and others, that I scarcely know how we can refrain from giving a qualified assent to the proposition; especially since the negative proofs brought by Mr. Bell are open to this obvious objection—that as we cannot ascertain one diseased section of matter from another by the mere appearance, his experiments might possibly not have been made with the matter of a *venereal* gonorrhœa.

It is most certain that if there be a species of gonorrhœa capable of conveying the constitutional effects of syphilis, such cases are very rare: nevertheless, that they are occasionally met with not the slightest doubt can be entertained; and these secondary affections are, when they occur, equally curable by a mild and judicious mercurial treatment. Yet, admitting this to be true, there does not appear to be any reason for altering our practice in the general treatment of gonorrhœa; since in the inflammatory stage, whether (if I may assume the expression) it be venereal or not, mercury would be equally improper and useless; and considering also the rare occurrence of secondary symptoms, and how easily they are to be controlled as they arise, it is certainly on every account most judicious to wait for their approach.

When we consider the structure of the female parts of generation, and their liability to discharges of various kinds, the possibility of such discharges arising spontaneously, as is proved even by female infants of three or four years of age, under certain circumstances of constitutional ailment, being affected both with profuse and acrimonious discharges from the pudenda, an occurrence which I have witnessed upon many occasions, we surely cannot be surprised that the disease usually termed gonorrhœa, that is, a purulent discharge from the urethra, attended with heat of urine, should be so commonly the result of promiscuous connexion. Nor is it in the female only that such discharges will arise from accidental causes, for all surgeons well know that an irritable condition of the male urethra will produce the same effect in a man whenever connexion takes place even with a perfectly sound and healthy female; and no doubt the disease so produced might afterwards be propagated by coition. In some animals, the dog especially, we see occasionally, from mere excess of sexual indulgence, a somewhat similar disease established; which is, in truth, the mere effect of any irritation, however simple, applied to the tender and very susceptible membrane of the urethra. If this be true, and I firmly believe that nothing has been exaggerated or misrepresented, I can readily understand how it came to pass that, soon after the invasion of syphilis, authors began to distinguish gonorrhœa as a symptom of that complaint: not that they were previously unacquainted with a similar disease, but that they then began to observe that something more than usual attended the disease from that period, so that it was occasionally followed by the symptoms of lues; that it was often the first diseased appearance that presented itself, and was often accompanied with or succeeded by chancres. Such cases are not, indeed, unfrequent now: it was but last week that an instance of this kind presented itself to me in the person of a man who was labouring under gonorrhœa, and who, after the lapse of a few days, when the discharge was beginning to lessen, observed a small pimple on his glans penis, which proved

to be a troublesome ulceration, with all the appearance and character of chancre. Writers upon syphilis abound with similar histories. The length of time that elapses between the application of the gonorrhœal matter and the breaking out of the ulceration, is occasionally very considerable. Mr. Evans records such an example, and in Mr. Hunter's Treatise several others are to be found.

Thus I am inclined to believe that although the vast majority of cases of discharge from the urethra, attended with pain in making water, which are the consequence of sexual intercourse, and have therefore the common name of gonorrhœa applied to them, are, in truth, merely local affections of different degrees of intensity and duration, depending much upon the peculiar temperament of the person affected by it, and other accidental causes; yet still I acknowledge the existence of a species of gonorrhœa to which the term of venereal, or syphilitic, has been applied; and I farther believe that this species may lead to ulcerations of the throat and palate, to ophthalmia, to eruptions, to swellings and pains in the joints, and, finally, to affections of the periosteum and bones. If I am asked why (granting this explanation to be true) it happens that sometimes this gonorrhœa takes place after connexion, and sometimes ulceration only ensues, and why the cases in which secondary symptoms occur are so few, I can only reply by calling your recollection to the fact already proved by the experiments made in the army—that not one ulceration out of six or eight, or even ten, according to some of the reports, are followed by the decided proof of the disease having been syphilitic—that is, by secondary symptoms. Neither do I know any good reason that can be given why one kind of ulcer should prevail usually in one climate, whilst it is rarely met with in another: but there can be no doubt, from the medical records of the last age, that gonorrhœa, followed by lues, was at that period very frequent; indeed so much so, that the satirists of those times assert it as an acknowledged and established fact. Thus Dr. Donne says,

—time, which makes a calf an ox,
And travelling on, confirms a clap to pox.

I merely quote these lines to prove the universality of the belief. The evidence of Wiseman, Sydenham, Paré, and others, I, however, consider to be unanswerable, when mere matters of fact are to be decided upon. Should these observations have but little weight, I would beg to draw your attention to an observation made by Mr. Carmichael, who, in alluding to the infrequency of secondary symptoms after gonorrhœa, says that the security of the constitution probably arises from the structure of the part to which the poison is applied, inflammation and suppuration being the means by which nature forbids the introduction of morbid poisons into the system, analogous to what is found to take place in the cow-pock inoculation, where, if we wait till the pustule has suppured, we

shall fail in communicating the disease. This explanation is ingenious, and would be perfectly satisfactory but for one circumstance—it does not account for the infrequency of secondary symptoms following gonorrhœa. Now, in comparison with what we find recorded in the sixteenth and seventeenth centuries, another conjecture, for it cannot be called by any other name, has been formed upon this subject: it has been supposed that secondary symptoms only ensue in those rare cases of ulceration situated within the urethra, accompanied by gonorrhœal discharge. These sometimes exist within sight, or are at least palpable externally to the touch; neither is it impossible that they may be occasionally situated lower down in the passage, but this requires farther confirmation. Now from all that has been urged above, it appears to me, that soon after the invasion of syphilis a kind of gonorrhœa was occasionally met with which led to secondary symptoms; that the distinction between this species and all other purulent discharges from the urethra being no otherwise obvious to the senses than by the ulterior consequences arising from it, was speedily lost sight of, every such discharge came to be considered as venereal, and the patient was subjected, without hesitation or deliberation, to a course of mercury. The progress of time having led to the discovery that this was a mistaken view of the subject, and that discharges from the urethra did not, in fact, in the great majority of instances, lead to any constitutional affection, the profession ran into the opposite extreme, and now deny that gonorrhœa ever is to be accounted a symptom of syphilis.

Having now, in as few words as possible, endeavoured to explain to you my own views upon this subject, I will detail to you the conflicting evidence which you will meet with in different treatises, and you will then be able to judge how far I have formed a just estimate of the labours of these various writers, and on which side of the question the balance of evidence appears to lean.

Mr. Hunter, in a very early part of his work, declares as follows:—"If any doubt still remain with respect to the two diseases being of the same nature, it will be removed by considering that the matter produced in both is of the same kind and has the same properties; the proofs of which are, that the matter of a gonorrhœa will produce a chancre, or lues venerea; and the matter of a chancre will produce either a gonorrhœa, a chancre, or the lues venerea." This assertion is followed by the relation of the case of a gentleman who twice contracted gonorrhœa, of which he was, upon both occasions, cured without mercury: about two months after each he had symptoms of the lues venerea; those in consequence of the first affection were ulcers in the throat, which were removed by the external use of mercury; the symptoms in consequence of the second were blotches on the skin, for which he employed the mercurial ointment, and was cured. In order to account for these phenomena,

Mr. Hunter observes that there is a different kind of action of the parts affected when subjected to irritation: the gonorrhœa always proceeds from a secreting surface, and the chancre is formed on a non-secreting surface; and in this last the part must become a secreting surface before matter can be produced. Such is his theory. In order, however, to prove the truth of his assertion, he performed the following experiments, which I shall relate in his own words, with this previous remark—that it is much to be lamented that he did not suffer the maladies he produced to pursue their natural course, without the interference either of caustic or mercury; but which treatment he adopted, as you will perceive, in consequence of a preconceived notion that by so doing he proved the venereal nature of the symptoms. Mr. Hunter tells us that, in order to ascertain several facts relative to the venereal disease, he made two punctures with a lancet dipped in the matter of gonorrhœa, on the penis: one puncture was on the glans, the other on the prepuce. This was on a Friday: on the Sunday following there was a teasing itching on those parts, which lasted till the Tuesday following; in the meantime, the puncture being examined, there seemed to be a greater redness and moisture than usual, which was imputed to the parts being rubbed. Upon the Tuesday morning that part of the prepuce where the puncture had been made was redder than natural, thickened, and had formed a speck; by the following Tuesday the speck had increased and discharged some matter, and there seemed to be a little pouting of the lips of the urethra, also a sensation in it on making water, so that a discharge was expected from it. The speck was now touched with lunar caustic, and afterwards dressed with calomel ointment. On Saturday morning the slough came off, and it was again touched, and another slough came off on the Monday following. The preceding night the glans had itched a good deal, and on Tuesday a white speck had appeared where the puncture had been made; this speck, when examined, was found to be a pimple full of yellowish matter. This was now touched with the lunar caustic, and dressed as the former. On Wednesday the sore on the prepuce was yellow, and therefore was again touched with the caustic. On the Friday both sloughs came off; the sore on the prepuce looked red, and its base not so hard, but on the Saturday it did not look quite so well, and was touched again; and when that slough fell off it was allowed to heal, as well as the other, which left a dent in the glans. Four months after the chancre on the prepuce broke out again, and very stimulating applications were tried, but these seeming not to agree with it, and nothing being applied, it healed up. This course it pursued several times, but the sore on the glans never broke out again. Whilst the sores remained on the prepuce and glans, a swelling took place in one of the glands of the groin on the right side: mercury was rubbed in for some days,

and the gland subsided; it was then left off. The gland, after some time, began to swell again; as much mercury was rubbed in as appeared sufficient for the entire destruction of the gland, without giving enough to prevent the constitution being contaminated. About two months after the last attack of the bubo a little sharp pricking pain was felt in one of the tonsils on swallowing any thing; and on inspection a small ulcer was found, which was allowed to go on until its nature was ascertained, and then recourse was had to mercury, which was rubbed in on the same leg and thigh as before, to secure the gland more effectually. As soon as the ulcer was skinned over the mercury was left off, it not being intended to destroy the poison, but to observe what parts it would next affect. About three months afterwards, copper-coloured blotches broke out on the skin, and the former ulcer returned on the tonsil: mercury, in a palliating manner, was again had recourse to. It was left off a second time, and the same symptoms recurred; and therefore mercury was now taken in a sufficient quantity, and for a sufficient length of time, to complete the cure.

This explanation of Mr. Hunter's was for some time deemed to be conclusive, until Mr. Bell published the result of experiments which he had instituted; the result of which were in direct opposition to the former. These I will relate presently, but I will first pursue the evidence on Mr. Hunter's, on the affirmative side of the question. Mr. Hunter's opinions were espoused by Mr. Sawrey; more recently by Mr. Whately, as well as by Mr. Jacobs, who published "a Demonstration of the Identity of the Diseases at Brussels," a few years ago. I have anticipated most of the arguments made use of in those publications; but there is one remark made by Mr. Sawrey which cannot, in my opinion, be well replied to. He says, that if in any *one instance* the inoculation of gonorrhœal matter has produced chancre, there is an end to the question.

Mr. Jesse Foot, in treating this subject, makes use also of the following decisive language:—"Those who doubt that a virulent gonorrhœa is the venereal poison acting locally on a mucous membrane, might also doubt that it is produced in consequence of a connexion between a diseased person and a sound one; or in consequence of the infecting fluid being conveyed from a diseased subject and lodged on a mucous surface of a sound subject, so as to take effect;" and then he adds, in his own peculiar style, "gonorrhœa and chancre *are* both the result of venereal poison, acting upon parts under different modifications; the cause of both symptoms is the same, and the effects will be according to the anatomical structure of the parts. Venereal fluid applied to the urethra produces a discharge of mucus; that fluid lodged on the cutis produces a chancre." So far for his assertions: he afterwards renews the subject in a more argumentative manner, and says—"It has been

a question of late years whether the infecting discharge from the urethra is capable of producing a chancre on *another subject*, or whether chancreous matter is capable of producing a chancre on *another subject*—whether these two symptoms be produced by the same virus, acting upon different parts. By those who have doubted they were the same gonorrhœal fluid has been applied to the cuticle and cutis, for the purpose of proving whether chancre could be produced from it or not; and the matter of chancre has been applied to mucous parts, for the purpose of proving whether gonorrhœa could be so produced. When this experiment was made by one person it succeeded, and when it was made by another it failed; a third person, who was apprised of the two former experiments, still doubts whether the point in question is clear or not, and therefore thinks that the fact, to be clearly established, wants stronger confirmation. We are not told by them whether the experiments were made on the same subject or another. It should not be forgotten (he continues) that a fact may fail to be proved through an error in the experiment: in this question the truth could be well ascertained if one experiment succeeded out of an hundred. A man for instance, may deny that a single ball discharged from a gun will kill a bird flying, and the trial might be made by a bad shot at least a thousand times without success; therefore, if the experiment has once been found successful, all contest upon the question must be at an end, if you really give credit to the person who made it." Mr. Foot here takes occasion to lament that instead of making experiments the natural order of the phenomena had not been watched carefully; and he asks, "Is it impossible to examine a woman who, from a natural connexion, has infected a man, and from that examination to decide whether she infected him from a gonorrhœa or a chancre? Is there any difficulty in discovering a chancre if she has one; and if she has no chancre, must not such infection have been from gonorrhœa?" Mr. Foot is, however, too candid a writer to overlook the strongest objection to this belief, and he states it fairly in these words;—"One reason, and I think upon the face of it the most plausible of all others, why the fluid of chancre and gonorrhœa may be said not to be the same, is, that a man may have a gonorrhœa without a chancre, and a chancre without a gonorrhœa; for if both fluids possess the same virus, how happens it that chancres do not inevitably accompany gonorrhœa, and gonorrhœa chancres, on the same subject?" His answer to this objection is, first, that the order of the appearance of the symptoms differs materially—that gonorrhœa will most readily take place, then sores on the frænum and under part of the prepuce, and afterwards, but more rarely, on the body of the penis itself, and this is owing to the different construction of the parts; from hence he infers that as the urethra is most likely to be affected by any stimulus, therefore, in the latter stages of a gonorrhœa, the male urethra

will be likely to be acted upon by it, when other parts would not. This he offers as one reason, and another he deduces from the greater probability of the virus being undisturbed in that situation. His third argument is deriyed from the greater or less susceptibility in the constitution of the person to whom the virus is applied.

On examining the work of Swediaur, we also find him very decided in advocating this side of the question; and I shall next present you with a compressed account of what he has urged in support of it. I will not apologise for these numerous quotations, because the nature of the inquiry is necessarily intricate: the accounts are very contradictory as given by different authors, and it is a question both curious and important. Swediaur declares that he has seen several examples of ulcers in the throat, and other evident symptoms of lues appearing, in consequence of a blenorhagia, without there having been the least appearance of chancres either on the thighs or genital parts. These accidents, according to his observation, are generally observed after blenorhagias which have been more violent than usual, and for this reason the general infection of the body occurs more frequently in the female than the male; and he declares that he has treated many women who, without ever having had chancres, have had, in consequence of severe blenorhagias, ulcers of the tonsils and other syphilitic symptoms, and have been cured by the use of mercury; he has also seen the same happen to men. I know many cases, he goes on to say, where patients affected with a blenorhagia without any ulcer communicated chancres, and reciprocally. It happens unfortunately, that a prostitute gives one man a clap, another chancres, and a third both at once. Another fact also strengthens this belief: if a man, having a blenorhagia, does not keep the glans and prepuce very clean, it often happens, even after the discharge is considerably diminished, that chancres come on, which at length produce buboes, and other syphilitic symptoms; and, finally, he appeals to a direct experiment of Dr. Harrison, who, having introduced into the urethra matter taken from a syphilitic ulcer in the glans, by this means produced a blenorhagia.

Thus far Dr. Swediaur's facts go to establish this position, and he next endeavours to explain why it is that mercury is not necessary for the cure of a clap, and how it happens that secondary symptoms so seldom follow this form of the complaint; this he believes to be owing to the structure of the parts, as well as to the internal surface of the canal being defended by a quantity of mucus, by which the virus is much diluted. The sides of the urethra are defended, and consequently the formation of an ulcer prevented; he might also have added that nine cases out of ten of discharge from the urethra are not really cases of syphilitic gonorrhœa.

Both Vigarous and Lagneau, men of extensive experience and careful observation, relate

cases which have come under their observation tending to confirm the above arguments; the former mentions an instance in which six Frenchmen had connexion with one woman, one after the other; the first and fourth had chancres and buboes, the second and third had gonorrhœas, the fifth chancre, and the sixth bubo only. Lagneau expresses his belief that in the majority of instances the virus of gonorrhœa is the same as that of syphilis; and, finally, Dr. Hennen relates a case in which three men had connexion with the same woman within an hour; the first escaped, the second had chancres, the third gonorrhœa: one circumstance, however, certainly detracts from the merit and conclusiveness of these cases; it is not clearly ascertained that the women were affected either with chancre solely, or gonorrhœa solely. In corroboration of what I have already urged I would beg to point out a passage from Mr. Evan's pamphlet, in which he informs us that at an inspection which he attended at Valenciennes, out of an hundred women who were examined there were only two with ulcerations; and in the Departmental Hospital, at Lille, also, out of upwards of an hundred women which it contained when he visited it, there were only three cases of sore of that kind which he denominated *venerola vulgaris*; gonorrhœa, excoriation, &c. composed the remainder; and yet the military hospitals presented their usual number of men affected by ulcerations.

So far, then, on the affirmative side of the question. Now, to rebut the above strong chain of evidence, we have only the experiments of Mr. Bell; and, as I before observed, if they were twice as numerous they are not sufficient to overthrow the positive testimony of so many writers of credit and authority; because, as it is fully admitted that a gonorrhœa may be produced quite independently of syphilitic virus, we cannot be sure that Mr. Bell's experiments were made with that species of the disease, so that a large number of negative proofs never can overcome the evidence of one positive proof in this inquiry. Mr. Bell's first experiment was made by taking some of the matter of chancre upon a probe and applying it within the urethra; and for eight days no uneasiness was produced, but at the end of that time it was discovered that a sore was established in the urethra, followed soon after by another on the opposite side of the canal, both of which were cured by mercury.

The second experiment was made by introducing some gonorrhœal matter between the prepuce and the glans: in a couple of days some inflammation was produced, but it disappeared in a short time: this experiment was repeated with the same result. Two medical students undertook the following experiments: a small dossil of lint, soaked in gonorrhœal matter, was by each of them inserted between the prepuce and glans, and allowed to remain there for twenty-four hours; in one case inflammation ensued, followed by what is called gonorrhœa spuria, or external gonorrhœa:

in the second case slight inflammation took place, but the matter found its way to the urethra and gonorrhœa ensued, so that this experiment is altogether nugatory. In the next experiment the matter of gonorrhœa was inserted by a lancet between the skin of the prepuce and into the glans, but after three trials no chancre was produced; and, lastly, the matter of a chancre was introduced upon the point of a probe about a quarter of an inch into the urethra; no gonorrhœa took place, but in five or six days a painful chancre was perceived, followed by a bubo and a train of constitutional symptoms. I need not here recapitulate what I have before said in alluding to these discordant accounts: it is not by experiments upon so limited a scale that this point can be determined; and I must again repeat, that although there are some circumstances which, according to the views I entertain, are not clearly explainable, that upon the whole the presumption in favour of the identity, *not of all gonorrhœas*, but of one species with the matter of syphilis, is very strong indeed, and is confirmed fully by my own experience, which in this respect agrees with that of Mr. Carmichael; and this may possibly have been one of the reasons which induced that gentleman to look for a multiplicity of venereal poisons.

Many writers have endeavoured to distinguish the syphilitic gonorrhœa from those arising from other causes; and Swediaur has enumerated no less than eight species of the disease: among these he mentions a scorbutic gonorrhœa, which he considers to be the same complaint mentioned by Moses in the 15th chapter of Leviticus; and which is called, in the older translations of the Bible, "running of the yeins." The fact may possibly be as he conjectures; at any rate there can be but little doubt that some kind of discharge from the urethra was implied by the passage above mentioned. In addition to this species, the same author speaks of a gouty and rheumatic gonorrhœa, one also arising from acrid substances taken internally, from some mechanical violence in coition, or from an attack of hæmorrhoids. Among the substances accused of having the property of sometimes producing the disease, a German writer mentions guaiacum taken in large doses internally. The fact may be so, but we have no cases in this country to corroborate such an opinion; and we generally seek out other causes more common, and more in the course of nature.

You will perceive that this enumeration of species cannot be very useful practically; but there is certainly one advantage in making such distinctions: by recollecting the various causes which may produce the disease, we may often be induced to give a cautious opinion, and occasionally be able to save a patient from much uneasiness, or even from infamy or ruin; above all, we should not forget that female children even are sometimes affected with a severe discharge from the pudenda, which is very obstinate, being usually accompanied by other strumous or cachectic symptoms. Hence, then, it is very important

to take every collateral circumstance into consideration in pronouncing upon the nature of a discharge; since it has happened that a suspicion of this disease has been made the ground of accusation against many individuals very unjustly.

In the instance of adults of either sex, it is, however, obviously impossible in every case, or, indeed, in most cases, to form an opinion as to what discharges may be followed by after consequences, or to distinguish them from those that will not: the mere intensity of the symptoms is not always a safe criterion to judge by. All then that we are enabled with certainty to say is this, that it is possible to pronounce on many occasions that a gonorrhœa is not venereal: thus, for example—if a discharge came on a few hours only after connexion, if it has continued several days without inflammatory symptoms, if the patient has been liable to some discharge after any excess either of venery or of wine—in all such cases the probability is that the patient labours under some other diseased condition of the urethra, and that, though the intercourse of the sexes may have been the exciting cause, still there may be no imputation upon the cleanliness of the female.

We are now prepared to enter into a description of the symptoms of gonorrhœa, of those diseases to which it often gives rise, and the mode of treating them.

Of the Symptoms of Gonorrhœa.

The first intimation of the approach of this disease is a sensation of titillation and itching in the urethra, at no great distance from the orifice, which in the course of a few hours, or a day or two, is followed by a little puffiness or tumefaction of that part, which also appears red and inflamed: to this succeeds a discharge of a light yellowish coloured mucus, which daily becomes thicker, and often assumes a greenish hue. In the meantime, that sensation which was at first only an itching soon amounts to a painful sense of burning after passing the urine; and this continues for a greater or less space of time, depending upon the intensity of the symptoms. The patient at night especially suffers greatly from frequent and painful erections, and if the inflammation becomes still more violent the symptom called chordee takes place; even in the day-time the disposition to painful erections often continues, and the penis is altogether tumid and tender, more especially the glans, which assumes a deep-red colour. At this period the discharge is generally very considerable; the pain in passing the water is acute, the glands in the groin frequently become tender and enlarged, and occasionally the inflammation is extended along the urethra to the membranous portion, sometimes even to the bladder itself. Such is usually the progression of the symptoms of this painful disease until it reaches its acmé, and the explanation of them all must be sought for in the peculiar structure and functions of the part affected: they arise from an active inflammation of a mucous membrane in a part whose functions

are complicated. Mr. Hunter believed that the inflammation in the urethra did not extend beyond one inch and a half from its orifice, which he called the specific distance. I need scarcely observe that there is no just reason for limiting it to that precise extent, and that the quantity of inflammation varies in almost every individual. Nevertheless, it is asserted in some German authors of recent date, that the true seat of the venereal gonorrhœa is in the mucous glands of Morgagni, which are situated immediately under the frænum; and Swediaur, who himself mentions this, believes that the disease does not usually extend farther, excepting in consequence of bad treatment on the part of the surgeon, or of indiscretion on that of the patient. Great contests have also existed as to whether the matter secreted be pus or mucus; but to what purpose are these discussions? The discharge is similar to that which is always afforded by mucous membranes in a state of inflammation; it is independent of any breach of surface. For many years, indeed, gonorrhœa was believed to be what its name implies—a discharge of semen; nor was it until Mr. Sharpe demonstrated the possibility of the formation of pus, without a previous breach of surface, that it began to be suspected that the discharge might not proceed from ulcerations in the canal. Since his work was published in 1753, this fact has become universally acknowledged; and we are not now, perhaps, sufficiently alive to the possibility of an ulcer occasionally occupying this situation in conjunction with an inflamed condition of the membrane itself. However, it must be recollected that this increased secretion is poured out from the mucous glands of the part as well as from the general surface of the membrane itself. The chordee is a symptom usually felt only when the inflammation runs high, and is caused by its affecting the corpus spongiosum urethræ; in consequence of which an extravasation of coagulable lymph into its cells takes place, which uniting them together, destroys its power of distention; and, therefore, a curvature takes place, the glans being drawn downwards by the frænum. In some instances the distention of the corpora cavernosa is so great that either the frænum is ruptured, or some blood-vessel gives way in the urethra itself; in either case the hæmorrhage which ensues contributes to mitigate the symptoms. The difficulty in making water, the smallness of the stream, its occasional bifurcation or scattering, all denote a greater or less degree of the inflammatory symptoms; the dimensions of the canal being lessened by the general thickening of the membrane, as well as by the enlargement of the mucous glands, and of those called Cowper's. The enlargement of the inguinal glands would appear to be the direct effect of irritation, and it is observed that in this disease they very seldom proceed to supuration. In those persons who have the prepuce very long, an œdematous swelling of that part sometimes takes place, which puts on a semi-transparent shining appearance, and this

is called a crystalline. Occasionally, also, matter is secreted in great quantity between the prepuce and glans, constituting external or spurious gonorrhœa; this may exist by itself; unaccompanied by common gonorrhœa, is the result sometimes of mere want of cleanliness, and wholly independent of sexual intercourse. The inflammatory symptoms of gonorrhœa, when they have gone on increasing for eight or ten days, usually begin to subside, though in some very severe cases the pain will continue to increase, and is severely felt in the situation of the prostate gland and neck of the bladder. An almost perpetual desire to make water torments the patient, which is passed only a few drops at a time, very often mixed with blood; but in the most aggravated form of the complaint, in addition to these symptoms the discharge appears actually to be arrested by the violence of the inflammatory action; the whole penis is tense, hot, and painful, and the patient can neither sit nor walk without great uneasiness.

The length of time that may elapse between the application of the virus and the breaking out of the discharge varies in different individuals, and under different circumstances; from four days to a week may be considered as the most usual period, but there are not wanting many well accredited histories where the appearance of the discharge was delayed for three or four weeks, or even longer. Mr. Hunter relates a case in which six weeks elapsed before the disease became established. With regard to the possibility of distinguishing this, the syphilitic gonorrhœa, from other discharges which simulate it, I have already spoken; and have only to add, that if the discharge arose within twenty-four hours after connexion, if the running was slight, or the pain in making water trifling, going off again in a few days, I should not hesitate in pronouncing it to be void of venereal infection; by which I mean, simply, that no future ill consequences were to be apprehended from it, since I am perfectly certain that any form of discharge may be propagated by coition. There are some few symptoms not always, or perhaps generally met with as consequences of gonorrhœa, which it will be necessary to mention; these are phymosis, paraphymosis, hernia humoralis, or swelling of the testicle, and inflammation or enlargement of the prostate gland. The first of these symptoms is not in general a very troublesome symptom in gonorrhœa; it may exist in combination with an œdema of the part which I have before alluded to, or without it. The paraphymosis is the reverse of the former; it is equally the result of inflammation in those who from neglect have suffered the glans to remain uncovered. The prepuce swelling whilst in that situation is incapable of being returned over the glans, and every hour that this condition of the parts is permitted to remain the difficulty is increased, and the result is sometimes an extensive sloughing of the prepuce, by which the stricture upon the glans and body of the penis is relieved. The swelled testicle is a symptom not necessarily belonging to this complaint

alone, since it arises from many other causes, but yet it not uncommonly occurs in the progress of a gonorrhœa: one testicle only is affected in most instances, and the tumefaction generally takes place suddenly, and from the most trifling cause, or sometimes, indeed, without our being able to trace it to any error in diet, or exercise on the part of the patient. It most usually comes on when the inflammatory symptoms are beginning to subside, or even later; and its immediate effect is a sudden and almost total stoppage of the discharge from the urethra. The pain commences usually in the epididymis, and from thence spreads to the body of the testicle and the spermatic cord, so that there is often considerable pain felt in the loins, with a considerable accession of febrile heat, and increased arterial action. In violent cases even the stomach sympathises in the attack, and there is both nausea and vomiting. The swelled testicle, however, usually terminates by resolution, and a restoration of the discharge from the urethra is often the precursor, and always the consequence, of its subsidence.

Much has been said by authors of the cause of this symptom: it has been attributed to sympathy, to metastasis, and also to a continuation of the specific action of the virus communicated through the vas deferens. I shall here observe that the first explanation appears to me very untenable; since, as a late writer observes, sympathy implies an affection of one part for the benefit of the other; so that if sympathy were the cause, it should always come on when the urethra is most inflamed; when the scalding and chordee are at their height; and the swelling of the testicle should abate when these abated; but the very reverse of this is the case. It is singular, however, that the acute objector to this theory should have offered one equally exceptionable, and which is contradicted by every day's experience. He affirms, (I speak of Mr. Foot,) that the orifices of the vasa deferentia which open into the urethra are shut against the effects of all stimuli, and that it is from accident alone that venereal stimulus can possibly be admitted, but if once it gain admittance, "I am of opinion (he adds) that the venereal stimulus can act as well along the vas deferens; which will proceed to the epididymis, and affect that and the testicle. If virus can pass through lymphatics, in consequence of what is called absorption, there is no difficulty in presuming that it may pass along the vas deferens by capillary attraction; and I am also of opinion, that part of the discharge which follows a swelled testicle, and to which a swelled testicle from a venereal cause owes its restoration to a sound state, flows through the vas deferens, and that it is poured from thence into the urethra. I am also of opinion that when the venereal stimulus gains admittance within the orifice of the vas deferens, the progress of the inflammatory symptoms is as slow there as it is through the urethra after gonorrhœal infection has been first received."

Now I need scarcely point out to you how

little we learn from this hypothesis: it does not explain why one testicle only is usually attacked; it throws no light upon the swelling of the testicle that follows upon passing a bougie; and it explains nothing with respect to the coming on of this symptom in cases comparatively slight, where we have no reason to believe that the inflammation extends to the orifice of the vas deferens. We have nothing better to offer in explanation of this symptom than the word metastasis, which in truth is only changing one word for another, and brings us no nearer to the philosophy of the change than if we merely contented ourselves with the fact that there is a translation of disease from one part to another.

Respecting the more obscure and rarer symptoms of gonorrhœa, such as inflammation of the prostate glands, abscesses formed in the urethra itself, or in one or both of the corpora cavernosa, the former is chiefly marked by a dull and heavy pain in the neighbourhood of the anus, with a sense of weight in that part; and the enlargement of the gland may be detected in some instances by passing the finger into the rectum. The formation of abscess in the urethra is denoted by an increased pain, fixed and circumscribed to one particular spot in the urethra, and there is a good deal of constitutional disturbance accompanying this symptom.

Such are the principal collateral circumstances attending the rise and progress of gonorrhœa when not interfered with by art: a few words, however, are necessary to be said respecting the disease when attacking the female; in that sex it is not by any means so complicated a disease, nor attended with so many troublesome symptoms, as when the male is the sufferer. It has been supposed by many that a gonorrhœa may be entirely confined to the vagina, and that a woman may not be aware that she is infected. This, though it would enable us to explain a few more cases, I should conceive to be a very unlikely circumstance, or at any rate that a woman could not remain in ignorance upon this point for any length of time. The most usual symptoms in the female are, besides those of heat, redness, scalding in the water, and discharge; swellings of the labiæ, nymphæ, and clitoris: and owing to the structure of the parts, and the large surface from which the discharge is poured out, excoriations are also very common: buboes also occasionally arise, and the inflammation may, as in the other sex, extend to the bladder. The discharge is oftentimes very obstinate, and difficult to eradicate entirely; so that it is not an easy matter always to determine when the disease has entirely ceased; for, as Mr. Hunter has truly observed, the appearance of the parts will often give us but very little information; and hence it is that females are frequently enabled to escape detection when suspected of having communicated the disease. The progress, the symptoms, and their treatment, will form the subject of the ensuing essay; but I trust I shall not be thought needlessly

prolix if I recapitulate shortly those reasons which induce me to believe in the existence of a syphilitic form of gonorrhœa. My argument runs thus: from observing the liability of the female to many discharges simulating gonorrhœas, such as may be met with in female infants, and which is so universal in hot climates, and so common also in the male subject, when labouring under stricture or other diseased conditions of the urethra, I concluded that a great majority of those cases usually classed as gonorrhœa were not syphilitic, although produced by connexion. 2dly. That these discharges had been acknowledged from the earliest ages; and, therefore, that the universal belief entertained by medical men in the sixteenth and seventeenth centuries, as to gonorrhœa being the most usual primary symptom of syphilis, arose from their observing that secondary symptoms did actually arise from that cause, and that they therefore came to consider and to treat every discharge from the urethra as venereal; whilst we, who seldom observe these consequences, have gone into the opposite extreme, and now deny that gonorrhœa ever leads to secondary symptoms at all. 3dly. I appealed to direct experiment, proving that the matter from chancre had produced gonorrhœa, and *vice versa*; and provided we can believe that such an occurrence has once taken place the dispute is settled, since the chances of making those experiments with matter not syphilitic are so numerous that I should not be shaken from my opinion merely by the negative result of a given number of failures. 4thly. That as far as inspection can warrant the conclusion, secondary symptoms have arisen in cases where no detectable breach of surface has existed in the female. 5thly. That numerous histories are given wherein men connected with the same woman have had in one instance ulcerations; in a second, merely a discharge; and lastly, that in my own practice I have seen more than one unequivocal example of ulcers in the throat, eruptions on the skin, ophthalmia, and even affections of the periosteum, following gonorrhœa only. But still I do not advocate the use of mercury in any form of that disease, because I know that it does not exert any specific influence over the symptoms; and that as we cannot detect one species of gonorrhœa from another by any visible circumstance, all we have to do is to reserve our mercurial treatment for those cases where secondary symptoms do arise, and that we are not to shut our eyes to their real nature because we cannot trace them to some form of primary ulceration.

[To be continued.]

From the London Medical Gazette.

ON THE SPECIFIC EFFECT OF ATMOSPHERIC POISON ON VARIOUS STRUCTURES OF THE BODY, as connected with the production of Disease—especially Fevers. By EDWARD SEYMOUR, M.D.

(Continued from page 34.)

We have hitherto been considering the im-

mediate effect of poisons on particular structures of the body, and we have seen that fever is produced by morbid atmospheric poisons, either arising spontaneously or from effluvia, and that after death different structures have suffered lesions, such lesions being different in different epidemics. If we now observe for a moment the actions of those substances, which in large doses occasion death, but in small doses are employed as remedies in disease, we shall see the law of action on particular structures, and even on different parts of those structures, fully exemplified.

Purgatives act by increasing secretion from the mucous glands, and the exhalation from the exhalant arteries of the intestines; but these not only thus produce their effect, but also stimulate the muscular coat of the intestines to stronger contraction, in order to expel their contents. Some of the purgative substances principally produce the first—some the second. Not only is this the case, but many of the class of purgatives act on one and the same part only of the intestinal canal. It is needless to illustrate this by the action of aloes, or of the saline purgatives.

Of the class of emetics we know that very many of them produce vomiting, either when used in friction and carried into the system through the blood vessels, or taken immediately into the stomach.

Of those remedies which appear to act directly on the nervous system, we find that, applied externally or taken internally, it is on the same structure their effect is produced. Thus belladonna, stramonium, hyosciamus, will cause, under either of these conditions, the well-known effect of dilatation of the pupil of the eye.

To return:—We may then consider epidemic fever to be the result of a poison either from the changes of the atmosphere, the vicinity of marshes, the exhalations from dead animal or vegetable matter, or from living bodies in a state of uncleanness, when crowded into a small space; and these causes may be believed to act with greater or less violence according to the state of disease or health in which the individual attacked exists, the position in which he is placed with regard to objects around him, as of labour or exposure, and the moral impressions by which he is interested, as anxiety, fear, care, &c.

This poison seems to act according to different epidemics and seasons on different parts. The nervous fever of Cullen appears to arise from injury done to the brain, ending in lesion; the bilious remittent fever, the gastric fever of Burserius, the mesenteric malignant fever of Baglivi, the gastro-enterite of the present French school, from the impression of the poison absorbed on the mucous membrane of the intestines, especially of the small intestines, from whose inflammation and subsequent lesion the danger of the disease arises; the catarrhal fever of authors, the influenza of modern times, from affection of the membrane which lines the fauces, throat, trachea, and bronchi, and the nares—the inflam-

mation and subsequent puriform secretion producing death.

It does undoubtedly occur that in some cases of the remittent fever which we have noticed, lesions both of the brain and bowels have been discovered after death; but this is certainly in a very small number, and in a very large proportion the morbid appearances are confined to alteration of structure in the mucous membrane of the small intestines. The sympathy which exists between the brain and the bowels is greater in some individuals than others, and hence we find that in some patients the delirium attending this form of disease is very severe, and the functional disturbance thus induced occasionally, but in rare instances, produces effusion in the brain. The very large proportion of cases in which the mucous coat of the intestines is the only part injured, seems to prove that the injury occasionally done to the distant part may arise from the peculiar sensibility of the individual, hereditary disposition, or previous disease. Were the converse of the position true, in children dying of hydrocephalus arising from inflammation, or at least congestion of the brain, or pure cases of phrenitis, we ought at least occasionally to find the bowels injured nearly in proportion to the violence of the head affection.

I shall proceed now to consider, from the histories of epidemics handed down to us, and from the few instances in which inspections after death have been recorded, the viscera on which the poison of the atmosphere, in different forms of fever, acts when absorbed into the system; the diagnosis, and the treatment which is to be founded, or has already been employed, on such principles.

Fever in which the Miasma, or Poison of the Atmosphere, acted immediately on the Mucous Membrane of the Fauces, Nares, Bronchi, and occasionally, in severe cases (probably by continuity,) on that of the Stomach.

The disease called catarrhal fever has visited the different countries of Europe, with more or less violence in regard to mortality, about fifteen times during the last two centuries, and histories of it have been left us by some of the first physicians in experience and ability, who were personally acquainted with the disease. Occasionally we find it described under other names, and occasionally other diseases under the same name. Thus it has sometimes lent its name to bilious or typhus fever, under the appellation of febris catarrhalis maligna, or febris petechizans; none of the symptoms being present which characterize the epidemic catarrh—such as cough, hoarseness, discharge from the nares, or inflammation of the bronchi.

Among other histories, we have the account of the epidemic catarrh, by Sydenham, in 1675; of a similar disease by Huxham, in 1743; and two very elegant descriptions of the same complaint, known under the name of influenza of 1782, from the pens of Sir George Baker

and Dr. Falconer. It is very unfortunate that none of these great physicians have left us an account of the appearances on dissection, although the epidemic mentioned by Huxham destroyed a thousand individuals in one week, and was considered mild of its kind.—(Huxham de Morbis Epidemicis, p. 104.)

Notwithstanding this omission, no one author hesitates to place the seat of the disease in the affection of the mucous membranes before mentioned; and the remedies to which it yielded, namely, moderate venesection, warmth, and diaphoretics, with laxatives, would afford sufficient testimony of the nature of the disease.

"The nature of this complaint," said Dr. Falconer, "is undoubtedly inflammatory, attended with a determination to the mucous membrane lining the nose and fauces, which is, indeed, the proper seat of the complaint, and to the irritation of which most of the more troublesome symptoms are owing." And again—"The seat of the influenza being the *pituitary* membrane."

But although there is a fair presumption, from the concurrent testimony of all authors, that the affection of this membrane was the direct effect of the miasma of the atmosphere absorbed into the blood, and that the various symptoms which arose were in direct proportion to the injury of the part, yet it is not absolutely conclusive, as we find frequently, in disease, distant parts affected with an apparently greater severity than the seat of the malady.

Morgagni, however, whose experience and testimony is of no slight importance, has left us the appearances after death in a case which died in the epidemic catarrh of Italy, in the year 1730; and here we shall find the mucous membrane of the fauces and bronchi the only injured part.

"Cadavere ad condituram dissecto nec sine pinguedine invento, sanum cerebrum, sana omnia ventris viscera, conspecta sunt, nisi quod jecur prægrande, subfuscum et duriusculum visum est; sed facile à natura, cum peculiare vitiati ejus visceris indicium neque antea neque in hoc morbo fuisset ullum. Certe autem thoracis spina ad modum litteræ S, jam inde a puero contorta, alterum illius cavum multo arctius faciebat, multoque minorem continebat pulmonem. In neutrum tamen cavum humoris quidquam erat effusum. Nihil polyposi in corde. Pulmones neque ad costas, neque ad diaphragma, quod sanum erat, neque ullam ad partem superficiem alligabant suam. Hæc autem erat albida, ut speciem præberet quasi oblitæ 'vernici,' ut vocamus quadam quæ ad lacteum colorem vergeret. Graves erant ipsi pulmones, sed a catarrhali quam continebant materia, multa passim e bronchiis, quacunque incideres crumpente. Certe eorum omnis substantia flaccida non modo non densa, aut compacta, reperta est."—(Epist. xiii. Art. 3.)

It is singular that the state of the air, in at least two of these epidemics (1743, 1782,) should have produced either immediately before or immediately after its decline, the dis-

ease of another part of the mucous membrane, —viz. dysentery.

Here, however, we are more fortunate in our history, as several cases are appended to the work of Sir G. Baker, containing not only accurate accounts of dissections, but also plates of the ulceration of the large intestines. Here the disease was confined to the colon and rectum, producing thickening and ulceration of the mucous membrane, sometimes even in its whole extent. This disease raged in London epidemically, from July to November, and appears to have been very fatal.

It might fairly be alleged that the epidemic catarrh was caused singly by the rapid alteration of temperature affecting the membrane which lines the passages most exposed, and that thus we might account for all the phenomena, without seeking for a peculiar poison of the atmosphere, which, introduced into the circulation, attacked this particular texture. But it is singular that this epidemic has been, in more than one instance, most severe in the months of June and July, when the temperature of the air was not even unusually below the ordinary standard of summer heat; and in almost all the accounts handed down to us, we find it affecting the inhabitants of southern climates at the same period that it raged among the nations of colder regions, attacking equally those on board ships and on different coasts with those who, from the precautions of luxury, were less exposed to variations of heat and cold.

Here, then, we have a fair and evident example of fever arising from the inflammation and increased secretion from a mucous membrane, depending upon a condition of the atmosphere nearly allied to marsh miasma, and probably introduced into the circulation by the lungs.

On Fever in which the Miasma or Poison of the Atmosphere acts directly on the Mucous Membrane of the small Intestines after being received into the Circulation.*

This fever, which is best known in this country under the name of bilious, but not uncommonly typhus fever, (I speak in the common acceptance of a term applied without reserve to all fevers of a low type,) is the most ordinary form of autumnal fever; occurring, however, at all seasons of the year, in low or marshy situations, and being most frequent when damp and cold, or rainy seasons, have succeeded to heat and drought. Where this disease has proved fatal, in the great majority of instances no deviation from the healthy state in the brain or its membranes is to be discovered. The morbid appearances are confined to the small intestines, presenting

* Synon.

Febris mesenterica maligna

Febris intestinalis

Febris gastrica

Gastro-enterite (aigue)

Baglivi.

Heister.

Burserius.

Broussais.

various degrees of increased vascularity and thickening, and different kinds of ulceration.

The first of these kinds of ulceration, which has been most fully and accurately described,* has its seat in the glandulæ aggregatæ of the small intestines. These are enlarged and thickened, and subsequently ulcerate, presenting ulcers from the size of a pin's head to that of a crown piece. These last have hard irregular edges, and are often so deep as to penetrate to the peritoneal coat of the intestine. When the peritoneal coat gives way, the patient expires in a few hours, with symptoms of acute inflammation; an occurrence which has sometimes taken place when the general amelioration of the symptoms in the progress of the fever had given rise to a fair promise of recovery.

The second kind has been termed abrasive ulceration, and appears as if the mucous membrane had been removed in places with a knife; the edges are neither raised nor much indurated, and there is little or no appearance of increased vascularity.

The third may be termed erosive ulceration. It is not situated in the glandular structure; the vessels around it are of a deep livid red colour, much enlarged; and from these, as the disease advances, very considerable discharges of sanious fluid take place. This form of ulcer resembles much in appearance, and in the symptoms and great prostration of strength with which it is accompanied, that of the cynanche maligna, in the aggravated forms of scarlatina.

Before proceeding to the investigation of the symptoms during life in these forms of fever, and before stating the reasons which convince me that the inflammation and ulceration of the small intestines are the primary affection, and the alteration in the functions of the sensorium the secondary, I may be permitted to inquire whether the ancient physicians who framed the various theories of fever were ignorant of these appearances. It will not be difficult to show that physicians who studied morbid anatomy were perfectly aware of the fact, and we can scarcely be astonished if those who wandered wholly from this true path of observation should have been dazzled and misled by the false lights of which they went in pursuit.

In the Sepulchretum of Bonetus we find traces of such appearances described, but in far too vague a manner to permit of their being considered as accurate observations, on which physicians of that period could form any essential part of their practice.

* Speaking of recent publications, I may mention those of MM. Andral and Bretonneau, in France, and of Dr. Hewett, Physician to St. George's Hospital, in London. Still later, the splendid work of Dr. Richard Bright, Physician to Guy's Hospital (perhaps the most complete work on the subjects on which it treats which has appeared since the Morbid Anatomy of Dr. Baillie,) leaves nothing to be desired.

Previous, then, to the works of the great anatomists of the 17th century, Spigelius and Morgagni, we find no descriptions on which we can rely of these appearances. It is not to be supposed, however, that such men could have overlooked so frequent a morbid appearance in the bodies of those who died of fever as ulceration of the small intestines.

The former writer, Spigelius, who has left us a very elaborate treatise on the fever known to the ancients under the name of hemitritæus, or febris semitertiana, has subjoined the account of the dissection of two patients who died of this disease, where the principal morbid appearances were ulcerations of the small intestines. In one instance, pain having been experienced during life on pressing the abdomen, and in the other no avowal of pain could be obtained from the patient.

From the manner in which this is mentioned, it appears that Spigelius esteemed the symptoms of abdominal pain of very considerable importance, and has placed the danger of the disease in inflammation and destruction of the mucous membrane of the small intestines. The cases are too long for insertion, but the account of the appearances in the ilium ought not to be omitted, as it will bear comparison with the very best and most accurate description from the pen of more modern writers:

"In eo tenuia intestina inflammata vidimus, præsertim tunica eorum interiore. Ilii portionem magnam versus colon prorsus sphacelatam. Interior intestinorum tenuium tunica quâ parte extremitates venarum meseraicum terminabantur duris quibusdam excrescentiis carnis, flavo colore et fusco præditis per brevissima intervalla dimidii aut paullo amplius spithamæ laboravit, majoribus excrescentiis in ileo, minoribus in jejunio."—*Spigel. de F. S. lib. 1, cap. xvi.*

So accurate a knowledge of the seat of disease, or at least of the structure whose lesion proves fatal in this form of fever, would, we should suppose, lead to accurate practice; and we find the following to be that which he inculcates as the result of these circumstances, and from his experience. He directs venesection where the symptoms are severe, and the early use of brisk purgatives; the latter, notwithstanding the objections of the ancient physicians, and in defiance of an aphorism of Hippocrates, no mean proof of his strong conviction of the necessity of such practice, when it is recollected that the scholastic reverence for these authorities was, in the beginning of the 17th century, unbounded.

"Usus quotidianus me docuit, Rhabarbarum, Senam, Agaricum, atque Aloen Socotrinum, initio omnis hujus febris datam plurimum profuisse," &c.—*Ibid. lib. iii. chap. vii.*

For this purpose he particularly recommends a purgative powder of that period, known under the name of the powder of the "Comte de Harvich," which consisted of scammony, antimony, nitre, and crystals of tartar. Considerable advantage is likewise

attributed to the use of fomentations and poultices to the abdomen. Morgagni has described, with his accustomed accuracy, a remarkable case of the erosive form of ulceration of the bowels in fever. A youth of twenty years of age, who had been subject to diarrhoea, was attacked with tertian fever, from which he recovered. He was then suddenly seized with acute fever, with exacerbations: on the fourteenth day of the disease he died. The following is the account of the abdominal appearances, in the words of this celebrated anatomist:—

“Venter, etsi nullo modo tumere videbatur, tamen multum continebat sancosi ichoris, qui ex intestinis prodibat, pluribus in locis ad quendam tractum perforatis. Is tractus ilei finem et proximum insuper colon ad duarum palmarum longitudinem comprehendebat. Erant ibi hæc intestina, erosa, exulcerata, et facie interiore etiam gangrænâ affecta, ut facilius perforari potuisset intelligens. Prope hunc tractum, nonnullæ mesenteriei glandulæ excreverant in tumorem, in quo ichor non dissimilis ejus qui in ventris cavum eruperat, ipsa autem tenuioris substantia mollis et flaccida erat, et ad corruptionem inclinare videbatur. Lien triplo major quam secundum naturam.”

The celebrated Baglivi, who is well known as having been one of the first to detect the errors of the humoralists of his period, in his investigations as to the truth or falsehood of medical opinions, appears to have been much struck with the alteration in the abdominal secretions in fever, and he observed that such alterations were particularly remarkable in fevers of a remittent type.

It does not appear that, by the words “febres mesentericæ,” Baglivi alludes to the disease now known under the name of *tabes mesenterica*, but to those fevers attended with dangerous symptoms, which he believed to arise from vitiated secretions in the primæ viæ, and conceived to stagnate in the mesenteric glands.

“Et candidè fateor ex tribus partibus, febrium quæ Romæ regnant, duas saltem originem habere ab infarctu mesenterii, ibique diu congestâ putri cacochyliâ.” It is obvious that Baglivi had observed the diseased secretions of the bowels accurately, and attributed to them the violent disorder of the brain and nervous system consequent on such disease; but he appears not to have known that they were often the consequence of inflammation and ulceration of the glandular structure of the bowels.

Had Baglivi consulted the appearances after death, he would have been enabled to conjoin the facts of the vitiated secretions with the diseased structure, instead of observing only the consequence, and inventing causes for its explanation.

On the opinions previously quoted the practice of this celebrated physician was formed, and he inculcates the use of purgatives. “Purgationes frequenter præscribo, et totam dirigo indicationem in educendo per purga-

tiones mesenterico apparatu, posthabitis diaphoreticis et inutilibus ne dicam noxiis testaceis pulveribus.”

In all these cases the author particularly objects to the use of bark, until healthy secretions have been obtained.

“Nonnulli in hisce casibus solent more solito Chinam Chinæ præscribere, quo autem cum successu pluribus in locis hujus operis animadverti. Nam hoc remedium impuro corpori dare, sæpe in ægroti perniciem vertitur, potissimum in maximo apparatu humorum in mesenterio. Frequenter succedit exhibitâ chinâ chinæ, febrem non tolli licet pluries repetatur.”

I have dilated more particularly on the opinions and practice of Baglivi, because they have been believed to have been the models by which were constructed the doctrines of a celebrated French physician of the present day; and hence to have drawn the attention of the profession more particularly to the alterations, both functional and structural, of the viscera of the abdomen in cases of fever.

We cannot be surprised that these states of ulceration of the bowels, so common in this fever, should not have been noticed by Dr. Cullen, when the great physician, from whom a large portion of his doctrines were derived, has scarcely alluded to them in his voluminous and laborious productions. Fred. Hoffman mentions, indeed, erosion of the stomach and bowels, in bilious fever, as the result of acrid bile; and has described, with his accustomed accuracy, the chronic forms of ulcerated intestines in the prolonged stage of dysentery, and in the diarrhoea of phthisis. But in no instance, which I can discover, has he related the appearances after death in his numerous cases of fever.

The following passages, occasionally repeated in different parts of his work, contain his knowledge and observations. I leave it to the reader to judge if they can be considered as accurate representations or explanations of the state of the membrane of the bowels in some epidemic fevers, which are now understood to be so frequent and so fatal.

“Nonnullæ non adeo acutæ sed longius extrahuntur, ita tamen ut subinde remissione vel plane intermissione quadam interpolentur et vel quotidie vel tertio quovis die cum vomitibus et refrigeratione iterum exacerbantur, merito ob id quotidianæ vel tertianæ quotidie vocandæ: sed hæ ipsæ nisi congruis cito succurrantur remediis, in lentas febres perquam facile degenerant et stomachi diuturna vitia, dolores pressorios, ructus, inflationes, ab erosionem ventriculi vel duodeni, à mordaci bilioso succo vel superficietenus vel profundius, factum inferunt.”—Vol. 3, sect. 12, cap. 11.

Contrast this with the following exact description of the ulceration in its chronic form, as it occurs to our observation in dysentery and phthisis.

“Quod si in intestino quodam ejusmodi erosio fuerit identidem dolores in abdomine et dorso cruciant qui semper assumptis calidis, salsis, acidis mirum exacerbantur, dejectiones

alvi sunt creberrimæ, et varia caloris et frigoris est in corpore vicissitudo, urina mox tenuis et aquosa, mox rubicunda et crassior redditur, malum etiam admodum diuturnum est, vires depascit, corpus consumit, longum certè tempus et accuratam emdulcentem diætam plusquam medicamenta præsertim activiora desiderat."

It is now several years since Dr. Baillie published his valuable work on *Morbid Anatomy*; a work which is doubly interesting from the period in which it was written, and the rare observation, accuracy, and simplicity, which it displays.

Dr. Baillie has very completely described the ulcerations of the intestines, which are so frequently met with; he has distinguished them with the most perfect truth in the following words:—

"The edges of the ulcer have sometimes considerable thickness, and sometimes they are not thicker than the healthy structure of the intestine. The edges and general cavity of the ulcer are sometimes ragged; and at other times they are smooth, as if a portion had been cut off from the intestines with a knife. Sometimes there is a considerable length of intestine, especially if it be the great one. (This is the appearance which prevails in severe dysentery.) The inner membrane hangs in shreds, occasioned by the great ravage of the ulceration. I have also seen a considerable portion of intestine completely stripped of its mucous membrane from the extent of this process, and its muscular coat appeared as distinct as if the mucous membrane had been very carefully dissected off. In the follicular glands, which are gathered together in little oval groups, I think ulceration occurs more frequently than in the other textures of the intestines."

It is impossible to conceive any thing more just than the preceding description; still Dr. Baillie has not connected these appearances with any particular form of disease, neither has he stated that they are very common in some forms of fever. From an expression in a posthumous publication of Dr. Baillie's, it would appear that he had not paid as much attention to what has been called *idiopathic fever* as to other diseases.

In the year 1804 Dr. Beddoes published a treatise on fever, principally with a view of ascertaining, from the history of the dissections of persons dying in various epidemics, the truth of Dr. Clutterbuck's and Mons. Ploucquet's views in associating *idiopathic fever* invariably with inflammation or lesion of the brain, or its membranes.

It is very difficult, from this little work, to collect that Dr. Beddoes was aware how often and how fatally the small intestines were attacked in some fevers; the result, however, of his comparisons and inquiries is, that "in *idiopathic fever* the stomach and contiguous parts have been found more constantly and more deeply affected with inflammation than the brain and its membranes."

Dr. Nevenson, more than twenty years ago,

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in his *Julstonian Lectures* on fever, before the College of Physicians, noticed particularly ulceration in the bowels as a most frequent and fatal occurrence. During twenty-six years that Dr. N. was a physician to St. George's Hospital, he was in the habit of calling the attention of the pupils to this fact.

From the foregoing remarks it will be easy to deduce the title to originality to which M. Broussais has a claim in the pathology of fever.

This gentleman, who has a just right to the name of an enlightened and enterprising physician, appears to have been led to doubt, from experience in the epidemic fevers which attacked the French army during various campaigns in the late war, of the propriety of the ordinary doctrines of fever. The opportunities afforded him of inspecting the bodies of those who fell victims to the disease, pointed out the frequent extensive and severe injuries in the mucous membranes of the intestines and bronchi, particularly the former; and led him subsequently to believe that fever was symptomatic of such changes, and not the cause of them.

We have already noticed the great similarity which exists between the opinions of Baglivi and those of Mons. Broussais, and it is not by any means improbable that the perusal of the works of the former either gave rise to, or at least strengthened, the tenets of the latter.

We have already shown, that although several illustrious and scientific men had not omitted to observe these organic lesions, yet they were but very few in comparison with those otherwise ingenious and learned physicians who have entirely passed them over; and although, strictly speaking, Mons. Broussais can by no means be considered to have made a discovery, yet he has most widely diffused what was otherwise most partially known. From one end of the continent of Europe to the other has the attention of physicians been called to the morbid appearances in fever, by the exertions, the ardour, and the example of the French physician. To him are undoubtedly owing the completion of the downfall of the doctrines of debility which, powerful in France, had become triumphant in the practice of Italy until the works of Rascori and Tomassini appeared.

Here, however, we must stop: the very spirit which supported M. Broussais in the diffusion of his observations carried him too far, and induced him to hope to establish an entire system of disease on the degrees of lesion of a single structure. Here, then, whilst we admire the talents of the man, and the labours of the physician, we are obliged to regret the intemperance of the enthusiast.

M. Broussais has published no direct work on the subject of injuries of the mucous membranes. Some papers, in a periodical work, and the observations scattered in his "*Revue des Systèmes Médicales*," contain his views. Personally, however, he has taught these observations, and demonstrated the lesions of the intestines in fever for several years; and the

pupils who have issued from his school have dispersed his opinions, and imitated his example, in almost every city in Europe.

At the time that Mons. Broussais was occupied on this subject in France, Dr. Armstrong called the attention of his pupils in this country to the subject, and enforced the great importance of these organic lesions.

Since this period, as I have lately noticed, many works have been published, and several lecturers have entered very fully on this subject. During the last four years, Dr. Chambers, physician to St. George's hospital, has been in the habit of pointing out these diseases, and illustrating his excellent and practical lectures with preparations taken from those cases which had prove fatal.

It has been alleged, and at first sight the opinion does not appear improbable, that these ulcerations discovered in the bodies of persons who have died of fever might arise from acrid substances administered throughout the disease, with a view of relieving the febrile symptoms, particularly from large doses of mercury, and frequently repeated purgatives. The habitual use of such remedies in this country renders it difficult to set this question absolutely at rest. The difficulty is removed, however, if we have recourse to the practice of physicians in other countries. In France, the treatment of this class of fevers consists in avoiding purgatives, administering only the milder laxatives, the application of leeches to the abdomen, the use of the mildest demulcents, as decoct. altheæ gum, and the infusions of various herbs perfectly divested of every active property. Here, then, we should expect to find the ulcerations of the glandular structure of the bowels at least much less frequent and severe; but the contrary is the fact, as the most terrible examples of this disease are constantly exhibited by Mons. Broussais to his pupils, where the emollient practice has been the only one enforced.

I shall proceed by stating the symptoms and considering the method of cure in this form of fever, having concluded my sketch of the opinions of former physicians, by which it will be perceived that those who combined observation of symptoms with the appearances after death, were well aware of the existence of this formidable effect of atmospheric miasma, whilst those (and unfortunately they were many) who were satisfied by grouping together symptoms, and explaining them by visionary laws, were ignorant of the destruction of parts which all must allow will go far to explain the severity of fever.

[To be continued.]

From the London Medical and Physical Journal.

UPON A DISEASE OF THE STOMACH, which produces well-defined Perforation in its Tunics, without Softening of their surrounding Structure. By Dr. C. H. EBERMAIER.

(Concluded from page 57.)

CASE VII. (related by M. Trinnius.)—A

man, apparently in good health, was suddenly attacked, after exposure to cold and rain, with a violent pain in the region of the stomach. His suffering gradually diminished, but he remained subject to frequent attacks of spasm in the stomach. His complaints, however, continued so trifling for the space of a year, that he did not, until the expiration of that time, seek for medical assistance. At this period he was robust in appearance, and, with the exception of slight spasmodic affections of the stomach, which did not, however, cause any local tenderness or increase of sensibility, he enjoyed good health. The digestive functions were undisturbed. He was quickly relieved by the use of the oxyde of bismuth. In the course of a few months, the cardialgic affection returned with increased severity. Any irregularity in diet obviously added to the sufferings of the patient. Antispasmodics produced no good effect. He had occasional intervals of ease, during which the stomach was not disturbed by food, and he was able to take moderate exercise.

About a fortnight after his relapse, he rode out one morning in a carriage, and ate heartily of salt meat. On returning home, he was seized with the most violent pains, with great agitation, and difficulty of breathing. The surface of the belly appeared to be drawn towards the spine; the face and extremities were pale and cold. Great pain in the abdomen; tenesmus. For the first time he vomited a quantity of tenacious mucus. He complained of a sense of fulness in the lower part of the belly: it was not, however, tense or hard. The pulsations at the wrist were too rapid to be numbered. The faculties were undisturbed. The slightest motion gave rise to the sensation of some heavy body rolling about in the abdomen. In a few hours he died.

Dissection.—A considerable quantity of chocolate-coloured fluid escaped from the abdomen. The stomach was pale and shrunk, and near the pylorus there was found an aperture of a circular form, about an inch in diameter. A more accurate examination detected several points of preternatural adhesion with the surrounding parts. In other respects, the stomach and the other viscera were perfectly healthy.

CASE VIII.—A man, twenty years old, who had been subject to dyspeptic attacks after eating, was attacked suddenly with very violent spasmodic pain in the stomach. He threw himself upon a sofa, his body bent with suffering, and uttering dreadful cries upon the least motion. The pulse was not to be felt. At the end of a few hours he died, in perfect possession of his faculties.

Dissection.—A good deal of air escaped from the abdomen. In the cavity was found a mixture of solid and liquid food, that had escaped from the stomach. The stomach was shrunk, and upon its anterior surface, near the lesser curvature, about two inches from the pylorus, was found an opening with smooth edges, which appeared as if it had been made with a punch. It was rather oval

than round, nine lines in length, and six in diameter. Nearly opposite this aperture, on the posterior part of the stomach, there was a small round spot of mortification, which appeared on the point of giving way. There was no appearance of recent inflammation, or determination of blood. All the other viscera were healthy.

CASE IX.—This case was communicated to Dr. E. by M. Thevissen. It is particularly interesting, inasmuch as it proves that a similar kind of disorganization may take place in other organs, the structure of which admits of the formation of perforations, with fatal extravasation of their contents.—An unmarried woman, thirty-three years of age, whose health had never been disturbed by any serious illness, suddenly complained of very severe pain in the lower part of the belly. No cause could be assigned for the attack. She imagined it was possible that her attack might be dependent upon suppression of the menses, which had existed for four months. The lower belly was highly sensible to the slightest pressure. Thirst excessive. Extremities covered with sweat, and cold as marble. Countenance anxious, and with a yellowish tinge. Pulse small and quick. Abdominal inflammation was suspected, and a severe antiphlogistic treatment was instituted without any benefit. The pains increased in severity. Frequent vomitings of a dark brown substance. The patient gradually sunk, and died the night after she was attacked. She had had no motion, nor passed any urine, during her short but severe illness.

Dissection.—A considerable quantity of fluid escaped from the abdomen, of an urinous smell. There was no trace of gangrene nor of inflammation. All the viscera were healthy. The uterus contained a four-months' fœtus. On the posterior side of the bladder, about the middle of its longitudinal diameter, a circular perforation was found, about two lines in diameter. The edges of this opening were neither gangrenous, inflamed, nor hard; they were as smooth as if a portion had been removed by a punch. In every other part the bladder was perfectly healthy.

After having cited these very interesting examples, Dr. E. takes a brief view of the opinions which other physicians have entertained upon the subject, and concludes by stating his own sentiments.

Gerard conceives that the perforations of the stomach cannot be attributed, in general, to any acrid matter. If such were the fact, the organ would be corroded to a greater extent. These apertures are usually found in patients apparently in good health, or who at least are not suffering under any malady alarming in itself. He imagines that death takes place in consequence of rupture of the stomach from gangrene, ulceration, or abscess; and he suggests that a small abscess may be slowly developed in the tunics of the stomach, which may entirely destroy the coats. A case related by Lieutaud renders this probable. He found pus between the membranes of the

stomach, in the body of a woman who had long suffered from cardialgia.

Chaussier derives all the perforations from scirrhus affections, or of from suppuration. He rejects the spontaneous digestion of the stomach admitted by Hunter, and also the action of worms. He supposes that the apertures arise from a morbid process of ulceration, which may be either acute or chronic. Although there is, in the first instance, no chemical alteration in the humours, still the cause depends upon a particular irritation of the solids, in consequence of which the humours acquire a dissolvent property, as is proved by the lint placed upon ulcers being frequently perforated or dissolved. It is impossible to characterize this morbid process by its external signs or by its essence, because it takes place in the tissue of the organs, in the extremities of the lymphatic, vascular, and nervous systems. It is, in fact, known only by its results. It is the opposite of the process of nutrition, which is as completely hidden from our observation. When it attacks a part, its blood-vessels are gradually multiplied, and appear injected. An ichorous fluid is discharged, which attacks the tissue, and destroys every part it touches. The spots and perforations of the stomach are different degrees of one and the same malady. Sometimes the destructive process is suddenly established, in the space of a few hours, and in healthy subjects. It more frequently occurs after some days' illness.

Henke is of opinion that these spontaneous perforations of the stomach are identical with the disease known in Germany by the name of gelatiform softening of that viscus, and which is observed principally in children, and that it is preceded by inflammation of the stomach, of a more or less acute nature.

Desgranges maintains that, in the case he saw, the violent contractions of the stomach, always acting upon a single point, produced a mechanical lesion of the part.

According to Rauch, perforations of the stomach occur in four different forms: 1. Ulcers with their edges, which are callous, or inflamed or sphacelated, and that then the tunics of the viscus are gradually destroyed. 2. Destruction of a perfectly healthy tissue, with irregular and fringed edges, more or less inflamed: such perforations arising from the action of gas, efforts at vomiting, &c. 3. Round holes with smooth edges, without suppuration, gangrene, inflammation, softening, or thickening. Also a gradual thinning, with local absorption of the coats. 4. Gelatiniform softening.

Various other opinions are glanced at, but they do not refer to those round perforations of the stomach, the edges of which are smooth and not thinned.

Dr. E. is of opinion that the cases he has related prove the existence of some common morbid cause, which could produce so striking an uniformity in the appearances seen on dissection. He observes—1. That in every case the disease was extremely slow, being gradually developed in the course of several

years. 2. In no instance was the nature of the malady suspected by the physicians. The symptoms were so obscure in some instances, that an affection of the stomach was never thought of. The derangements of the digestive functions were considered to be sympathetic. The fatal termination of the disease was never anticipated. Death sometimes occurred unexpectedly, almost in the midst of apparent health. 3. The disease continued uninterruptedly, without any perfect intervals, as is frequently the case in true nervous cardialgia, although occasionally in so slight a degree that the patient considered himself in health. Severe pain did not usually occur until the last days of the patient's existence, and not always even at that time. The previous pains were slight, limited to a dull sensation of pressure in the precordial region, and to slight spasms. 4. Cachexy never followed this long train of symptoms. Although vomiting frequently occurred, the strength of the patient did not appear diminished, nor did his external appearance indicate the existence of disease. Emaciation occurred only in the case related by Rauch, and that was an example of a complicated malady. In every other no hectic fever was observed, and death was neither the result of exhaustion of the vital powers nor want of nutrition: it was sudden, and caused by the extravasation of the contents of the stomach, without which the patient might have continued to live. 5. The perforations were always found in the pyloric region, or near it. 6. The most attentive examination could not in any case detect the least vestige of inflammation or suppuration of the other parts of the stomach. The tunics of that organ were perfectly healthy, except in the spot perforated, and rather pale than red. 7. The appearance of the perforation was always the same. Approaching a perfectly round form, and almost always of considerable extent, it penetrated uniformly all the coats of the stomach, so that the portion removed appeared to have been taken away in a very regular manner. The surrounding parts were never softened, nor the edges thinned. There was generally perceived around the opening a tumefied induration, but not tuberculous nor cartilaginous. It was regular, and lost insensibly in the healthy parts.

Dr. E. considers the cases he has related particularly interesting, and calculated to throw some light upon the true nature of these perforations, on account of the adventitious and thickened tissue which surrounded the apertures. It follows that the rupture could not have arisen from the thinness or local weakness of the part, but that it depended upon a regular and uniform process, continuing without interruption from the commencement of the disease.

It may then be concluded, that these regular perforations of the stomach are never the accidental or mechanical result of spasm. That the disease does not consist in scirrhus or cancer of the stomach. That it is not the ter-

mination of an ordinary chronic inflammation. Lastly, that it does not result from "ramollissement" of the parietes of the stomach.

From the London Medical Gazette.

REMARKS ON M. DUPUYTREN'S
TREATMENT OF HÆMORRHOIDS.
By J. BACOT, Surgeon.

In a late number of the French periodical called "La Clinique," there is a paper purporting to be the result of M. Dupuytren's experience as to the best method of removing hæmorrhoidal tumours, external as well as internal, but more particularly the latter. It may appear, perhaps, presumptuous in me to attempt to controvert the discoveries and opinions of a man so eminent as Baron Dupuytren, but as I have had no inconsiderable share of experience in the treatment of the disease in question, and as I sincerely believe the mode of cure recommended by him to be in many cases fraught with great danger, I shall make no apology for offering the following observations to the consideration of the profession; indeed the very celebrity of the Baron's name renders it more necessary to put this matter in a proper point of view, since it may very fairly be supposed that, under the sanction of his authority, the plan he advocates may be indiscriminately adopted by those who have not had opportunities of witnessing the danger and risk to which it gives rise. Perhaps of all those minor diseases which render life burdensome, without actually compelling the patient to forego entirely his usual avocations and amusements, none are more common than the existence of hæmorrhoidal tumours. These have been divided by authors into external and internal, and the distinction is not one of theory or convenience only, but is of the greatest practical importance. External piles, as their name implies, are situated on the outside of the sphincter ani, sometimes almost surrounding the anus, at others amounting only to one, two, or three in number. When not in a state of irritation they are flaccid and soft to the touch, *are covered by the common integuments*, and of a brownish ash colour; they are occasionally apt to bleed; sometimes they become tumid and tense, producing great pain in walking or sitting; their appearance then is much darker, and they both look and feel as if distended with blood. The bleeding from these external piles is sometimes constant, occasionally almost periodical, sometimes trifling, and at others amounting to a very considerable quantity; the blood appears to be poured or squeezed out, as it were, from the whole surface of the tumour, but now and then it is afforded by a single vessel. Such are the principal circumstances connected with the appearance and symptoms of external piles. It is not necessary now to dwell upon the opinions formerly entertained as to the salutary nature of the bleeding from these tumours, and the dangers likely to ensue from their suppres-

sion; neither shall I dilate upon their causes. Habitual costiveness, if, as some pretend, it has nothing to do with producing them, always contributes to their aggravation; and the effect of repeated strainings to evacuate the contents of the rectum sufficiently explains this fact. With regard to internal hæmorrhoids, or those situated within the sphincter, it may be said generally, that when existing in any number, or of any size, they are infinitely more troublesome and annoying than the external ones. They are a perpetual source of uneasiness and trouble, and when suffering under temporary irritation, they are infinitely more painful. These tumours are covered by the *mucous membrane of the gut*, and have therefore a smooth, shining, red appearance, which at once distinguishes them, when protruded from the anus. They are always so protruded when the bowels act, and will frequently, when numerous or large, require to be replaced within the sphincter by the finger; there, however, they will only remain for a short space of time: they descend with any violent exertion of walking, by the expulsion of flatus, or in aggravated cases often merely from the body being kept too long in the erect position; so that people thus unfortunately circumstanced are perpetually compelled to stop, in walking, to replace the tumours within the anus, or to sit down to get rid of the extremely distressing sensation (it can scarcely be called pain) which they produce. The existence of these tumours has often a great effect upon the general health; they not only bleed occasionally, as well as the external piles, but they pour out (especially when under the influence of occasional irritation) an abundant muco-purulent discharge, and induce pain in the loins, thighs, and calves of the legs, as well as general debility. Though these tumours are now and then complained of by young men, it seldom happens that they produce serious inconvenience before the middle period of life; and though women are subject to the disease, the majority of the worst cases of this sort will, I believe, be found to occur in the male sex.

Of the mode in which hæmorrhoidal tumours are formed, many explanations have been given: I shall not stop to examine these. That they are merely the enlarged terminations of the hæmorrhoidal veins I do not believe, but that they are often highly vascular there can be no doubt: I have seen an artery of the size of a crow-quill pouring out blood from one of these tumours, and projecting it to the extent of several feet.

The above description, though perhaps not complete, will, I conceive, be sufficient to enable any person, how little soever conversant with the subject, to recognise the disease; and it now only remains with me to protest against M. Dupuytren's plan of removing these tumours by excision, and to explain to what cases that mode of operating is applicable, and where it would in all probability be followed by fatal results.

In the paper to which I have alluded, it is

observed that the plan of treatment advocated by the Baron (namely, excision) is not always free from danger. In a foot note, two fatal cases are alluded to as having taken place within the knowledge of the writer, and in the first case mentioned (one related by M. Dupuytren) death from hemorrhage had nearly occurred, and was only prevented by the employment of the actual cautery; in short, had the surgeon quitted the house, the patient must have died; and yet this result can only be averted, upon such occasions, according to the Baron's statement, by thrusting a newly and neatly contrived red-hot instrument up the anus. Now the rule that I would lay down is simply this: if you wish to get rid of *internal* hæmorrhoids permanently and with safety to the patient, do not remove them by excision, for it is *never safe* to do so; and if you have to cure a patient of *external* piles, or those covered by common integument, *excise* them upon all occasions; the hemorrhage will be trifling and perfectly under your command; whereas the application of the ligature, which is certainly and assuredly safe in the treatment of the *internal* hæmorrhoidal tumour is fraught with mischief in the *external* pile, and should never upon any account be attempted.

It is not my intention to extend this paper by detailing the various methods that have been proposed for relieving the troublesome symptoms of this disease: my principal object was to enter my protest against the *excision of internal* hæmorrhoidal tumours, as recommended by M. Dupuytren. When the knife is used, in such cases, hemorrhage, to a greater or less extent, is always to be apprehended. Sometimes the tumours are very vascular, containing vessels of considerable dimensions, the divisions of which, in a situation out of our reach, would be necessarily fatal, and has unfortunately proved so on several occasions in this country as well as in France, and the probability of the occurrence of severe hemorrhage can never be appreciated *a priori*. It is true that the actual cautery, if skilfully employed, may, under those circumstances, arrest the bleeding; but it may not always be easy to touch the exact spot from which the hemorrhage proceeds—and there is certainly something revolting and frightful in the nature of the application, independently of the time that must necessarily elapse before the parts are restored to a healthy state. Now I contend that, by employing the ligature in these cases, all danger is avoided, the operation is not only safe but permanently efficacious, and, excepting the confinement of a few days, implies no risk whatever; I speak this with confidence, having performed or witnessed the performance of this operation at least fifty times, with an uniformly successful result: it only remains, therefore, to detail the method of performing it. The patient should take an aperient of castor-oil, so as to completely empty the bowels, either the evening before or on the morning of the operation. He is to be placed, during its performance,

in the same position as in the operation for fistula in ano; and having previously protruded the tumours by straining as if going to stool; the buttocks are then to be kept separated by an assistant, whilst the operator examines the size and number of the tumours, and observes their situation, as well as connexion with the gut, whether the base be narrow or broad, &c.

If the base be narrow a single ligature may be passed round it, and tied with considerable force; but if it be broad it will be necessary to pass a common curved needle, armed with a double ligature, through the centre of the hæmorrhoid, and tie it on each side. The ligature must not be too small, and should be drawn sufficiently tight at once. This part of the operation often produces considerable pain. When all, or at least the principal tumours have been secured in the manner directed, they are to be returned into the gut, one end of the ligature being previously cut off about an inch from the knot, and the patient put to bed. The great object is to preserve the parts at rest for three or four days, and to prevent, therefore, the chance of an evacuation by stool. For this purpose, as well as to allay the pain, which is sometimes very great, opium should be freely given; either in the solid form, or, if that disagrees, Battley's sedative solution will usually answer the purpose extremely well. For the first day or two the patient should be restricted from taking any solid food; and, indeed, whatever he has should be in small quantities. The ligatures generally fall off in a period of from four to eight days, and except some uneasiness in passing the stools for the first week or fortnight no other inconvenience will be found to remain. If the bowels should show no disposition to act upon the third or fourth day it may be proper to prescribe a purgative, either of castor-oil or jalap. The only untoward circumstances that I have ever met with in the progress of these cases are in the male—an inability to empty the bladder, lasting for a day or two, and requiring the employment of the catheter; and in either sex a disposition to nausea, or even vomiting, which is equally transient.

I have not thought it necessary to speak of local applications after this operation, because in general, they are of little service; the parts being returned and retained within the rectum. But when the patient complains of a troublesome burning sensation, which occasionally accompanies the destruction of the tumours, cloths dipped in the saturnine solution, or a common poultice, will afford relief.

The pain that very often attends the operation, and which endures sometimes for many hours, is likely to alarm the young practitioner. I have observed this always to be most severe when the ligature has not at first been drawn sufficiently tight. This pain is often associated, in the surgeon's mind, with the idea of active inflammation; and an erroneous practice founded upon it, such as large bleedings and other depletory measures. But this pain is not the result of active inflammation; it is un-

attended with pyrexial symptoms of any consequence; it appears to be the result solely of simple irritation. It is removed, or at least mitigated, by the free use of opium; and ceases altogether as soon as the death of the parts included within the ligature has been accomplished.

It is pleasing to observe the rapid improvement of the general health, and the altered appearance of the before anxious countenance, produced by the removal of the hæmorrhoidal tumour. There is, perhaps, no case in which the benefit derived from a surgical operation is more striking or more permanent.

A late number of the Gazette contains the following note from Mr. Bacot.

It has been suggested to me that, in commenting upon M. Dupuytren's mode of treating internal hæmorrhoids, I have expressed myself in a manner calculated to induce a belief that the plan of operating which I have described was the result of my own observation and experience. As such an impression is equally foreign from my intention as it is from the truth, I hasten to offer a few words as an addendum to my paper of last week. It cannot be too generally known that the profession is indebted solely to Mr. Copeland for the clear and scientific view which he gave some years ago of this class of complaints; to him alone must be ascribed the merit of having shown to what cases the operation by ligature is applicable, and where excision may be practised with safety; and the value of his work consists in the sound and unerring principle upon which it is founded—that of the anatomical structure of the parts concerned. It has often surprised me that, notwithstanding the length of time which has elapsed since the publication of Mr. Copeland's pamphlet, and the eminent success attending his practice, the profession, both in England and on the Continent, appear to be still so little instructed on this subject. In all modern works upon diseases of the rectum, including Messrs. White's, Kirby's and Calvert's, the treatment of the internal hæmorrhoidal tumour is discussed in a manner that evidently shows these gentlemen to have been unacquainted with the true principles of practice in these cases; and I cannot but repeat my conviction that, if the mode of operating first brought into notice by Mr. Copeland, and which I have followed for some years with the same invariable success, was generally understood and appreciated as it ought to be, we should hear nothing more of the excision of internal hæmorrhoids.

From the Edinburgh Medical and Surgical Journal.

CASE OF OSTEO-SARCOMA OF THE LOWER JAW, Removed by JAMES SYME, Esq. F. R. C. Surgeons, Lecturer on Anatomy and Surgery, &c.

Though excision of the lower jaw has of late years been frequently performed by various surgeons at home and abroad, I flatter myself

that the following case will be read with interest, since the tumour which was the subject of it is, I have reason to believe, the largest that has been removed by this operation.

In the beginning of July I was requested by Dr. Sibbald to examine a tumour which he was anxious to have removed, provided it could be done with safety to the patient. He told me that, while making a professional visit at Coldstream, he had seen the unfortunate person in question, and learned the following particulars of his case.

Between eight and nine years ago, Robert Penman, then 16 years old, noticed a hard swelling of the gum on the outer side of the grinding teeth of the lower jaw. The swelling was not painful but gradually increased. When it attained the size of an egg, he applied to a surgeon of the neighbourhood, who extracted three of the adjoining grinders. It then grew more rapidly, and having at length become so large as a double fist, induced him to repair to the Royal Infirmary of this city, where it was removed, *i. e.* cut off from the bone. The wound did not heal, and the actual cautery was repeatedly applied in vain to make it do so. After remaining eight months in the Infirmary he returned home; but finding the tumour regularly and rapidly increasing, he, two years afterwards, came again to Edinburgh, and consulted a distinguished operating surgeon, who declined making any attempt towards his relief. He went home with the fearful prospect of a certain, lingering and painful dissolution; and it was after *three years and a-half* spent in this miserable state that Dr. Sibbald happened to see him. Though the tumour was then nearly three times larger than it was when the patient last quitted Edinburgh, Dr. Sibbald felt persuaded that it was still within the reach of surgery, and therefore encouraged the young man to come once more to town, which he accordingly did.

Though prepared for something very extraordinary and frightful, I certainly was astonished at first sight of the patient.

The mouth was placed diagonally across the face, and had suffered such monstrous distortion as to measure fifteen inches in circumference. The throat of the patient was almost obliterated, there being only about two inches of it above the sternum, so that the cricoid cartilage of the larynx was on a level with that bone. When the tumour was viewed in profile it extended eight inches from the front of the neck. It completely filled the mouth, and occupied all the space below it, from jaw to jaw. The tongue was thrust out of its place, and lay between the teeth and cheek of the right side. The only portion of the jaw not implicated in the disease was the right ramus and base of the same side, from the bicuspid teeth backwards. The tumour, where covered by the integuments, was uniformly very firm, and for the most part distinctly osseous. The part which appeared through the mouth was a florid, irregular, fungous-looking mass of variable consistence,

from which an alarming hemorrhage had occasionally occurred; and for the last three or four weeks there had been almost daily a discharge of blood to the extent of one or two ounces. Notwithstanding the great bulk of the tumour, the patient could move his jaw pretty freely in all directions. With the exception of the disease now described, Penman enjoyed good health. He was a tall, well made, though much emaciated, intelligent young man, and possessed uncommon fortitude.

Having carefully examined the tumour, I undertook to remove it; and this proposal meeting with the approbation of Dr. Abercrombie and Professor Ballingall, was, with the assistance of the latter gentleman, carried into execution on the 7th of July, in the presence of Dr. Abercrombie, Professor Russell, Dr. Hunter, &c.

The patient being seated on an ordinary chair, which posture, though inconvenient to myself, I preferred as being most conducive to the prevention of suffocation from hemorrhage during the operation, I made an oblique incision by running a sharp-pointed knife through the lip, from the right angle of the mouth to the base of the jaw, where I proposed to divide it, *viz.* at the second bicuspid tooth, which had been removed the evening before. Having exposed the external surface of the bone at this part, I divided it partially with the saw, and easily completed what remained by means of the cutting pliers. The inferior coronary artery, which Dr. Ballingall had prevented from bleeding by compressing it in the lip, was then tied.

I next made a long semicircular incision from the left angle of the mouth, in the direction of the base and ramus of the jaw, and terminating over the condyle. Having secured the facial artery, and two transverse branches of the temporal, I dissected down the large flap thus formed quite to the neck, so as to let Dr. Ballingall feel the carotid lying in the muscular interspace, and ready to be compressed if there should be occasion. I then made another curved incision in a similar direction, commencing from the mouth, at such distance above the former as to include a portion of the cheek, which was firmly adherent to the tumour; and having dissected up this flap, divided the masseter muscle, so as to expose the whole external surface of the tumour. The next step was to divide the mucous membrane of the mouth. This rendered the tumour much more moveable, and enabled me to expose the coronoid process, divide the temporal muscle, and open the articulation at its fore part. I had then merely to cut closely round the condyle, and detach the pterygoid, mylohyoid, and other muscular connexions.

The operation occupied twenty-four minutes; but all this time was not employed in cutting, as I frequently allowed a little respite, to prevent exhaustion from continual suffering. The patient bore it well, and did not lose more than seven or eight ounces of blood. His breathing was never in the slightest degree affected.

After placing a few folds of caddis in the great cavity left by the tumour, which weighed 4½ lbs., I brought the integuments together on the left side of the face, in a triangular form, and retained the edges in contact by the twisted suture. The incision on the right side was dressed in the same way. Two or three turns of a roller were then put round the chin and head, so as to support the relaxed integuments.

The patient made no complaint of any sort after the operation. His pulse for the first two days was about 100, but soft, and gradually subsided to the natural standard. He slept well; had an appetite for his food, viz. beef-tea and whey, which were introduced into the pharynx through a funnel with curved tube, and performed his excretions regularly. The whole of the caddis was removed by the third day, when the patient sat up, and declared that he felt better than he did previous to the operation.

In concluding this case, I take the liberty of making a few general remarks on the mode of operating.

The patient ought certainly to be seated, since the blood will thus be prevented from running into his throat so as to delay the operation, or even render tracheotomy necessary to prevent suffocation.

There is no advantage in tying the carotid artery previous to commencing the extirpation. I was advised to do so in the case above related, but declined on the following grounds:—1. It is unnecessary, since the only arteries which must and ought to be cut are the facial, some of its branches, and some branches of the temporal. 2. It must exhaust the patient, especially when the tumour throws an obstacle in the way, as in Penman's case, where there was hardly any space left for applying a ligature. Thus, in one of Dr. Mott's cases, the patient was so much fatigued, as to require the delay of a day after the artery was tied. 3. It increases the danger, since it cannot be denied that there is always more or less risk of hemorrhage on the separation of a ligature from so large a vessel as the carotid. 4. It is of no use, since the anastomotic communications are so free, that a ligature of the trunk is not sufficient to arrest the flow of blood from its branches. Thus, in Dr. Mott's case above-mentioned, the arteries which were cut during the operation required to be tied; and I have heard of a case where the operator, attempting to remove a tumour of the upper jaw, tied *both* carotids, and was still obliged to desist by the bleeding. 5. Any good effect that can be expected from *tying* the trunk may be obtained by *compressing* it after the integuments lying over it have been dissected off or divided.

For sawing through the lower jaw, I am quite sure that the chain saw, though recommended by a surgeon so experienced and judicious as my friend Dr. Cusack, is not the best instrument. The one I used has a straight blade six inches and a-half long and half an inch broad, with a straight handle. It will be

found very useful in many different operations on the bones. It is not necessary to saw through the whole thickness of the bone. A pretty deep groove being made, the cutting pliers, introduced into use with so much advantage to operative surgery by Mr. Liston, easily complete what remains. In this way I divided the jaw in less time than would have been required for passing the chain saw round it.

The external surface of the tumour should be completely exposed before proceeding farther, since all the vessels which ought to be tied may then be tied in the first instance, and a free drain is afforded to the blood which oozes from the small branches. The mucous membrane of the mouth being next cut by a scalpel, carried from the tonsil outwards, the tumour is rendered much more moveable, and the surgeon will generally be able to free the coronoid process from its muscular connexions. Should he fail in doing so, he ought to cut it across with the saw or pliers, and then depressing the tumour as far as possible, open the articulation on its fore part; after which he has merely to carry his knife close to the tumour, and divide the remaining attachments.

I think Dr. Cusack is entitled to much praise for insisting on the propriety of opening the articulation from before, since a wound of the internal maxillary, or even the temporal, is otherwise almost inevitable. Thus Mr. Liston, in the case detailed in the last number of this Journal, opened the joint from behind, and found it necessary to tie the common trunk of the temporal and internally maxillary,—in short, the external carotid. I do not mean to say that this proceeding was very dangerous to the patient, or very difficult to so expert an operator as Mr. Liston. But I think that the great object of a surgeon should be to avoid cutting any thing which it is not necessary to cut. And I think that the patient in this case would hardly have suffered the severe secondary hemorrhage which is mentioned in the relation referred to, if the superficial vessels merely had been divided.

It appears also that in Mr. Liston's case the ascending branches of the portio dura were cut, since the patient's eyelids were paralysed. Now this in all probability would not have happened, if the articulation had been opened from before.

P. S.—Penman is now quite well. His mouth is contracted to nearly the natural size, and his appearance is not disagreeable. He is daily improving in articulation, and can already express his wants pretty intelligibly. He has become much stronger, and is thinking of resuming his occupation.

From the Lancet.

STONE IN THE BLADDER SUCCESSFULLY TREATED BY LITHOTRITY.

The extraordinary success which M. Civiale has experienced by his method of treating stone in the bladder, entitles it to more atten-

tion than has hitherto been bestowed on it by the practitioner of this country. We presume that our readers are acquainted with this method, and have no doubt that the following case will contribute to excite their interest in its favour.

— Morin, 68 years of age, of a very irritable temperament, began, in 1825, to be affected with considerable strangury and dysuria. The application of leeches and poultices to the perineum, warm baths, and a spare diet, relieved these symptoms, but did not prevent their frequent recurrence during 1826. At this time hectic fever began to appear, and the urine deposited purulent matter, the quantity of which gradually increased. As the patient obstinately refused to be sounded, it is uncertain whether, at this period, a stone had been formed. The symptoms becoming, however, more urgent, the patient was at last sounded, and a stone was found in the bladder, which was so irritable that the introduction of the sound was followed by acute cystitis, which could only be reduced to a sub-inflammatory state by a very active antiphlogistic treatment. Under these circumstances, M. Civiale's method was proposed, and although the hectic state of the patient, colliquative sweats, the greatest debility, with nausea, &c., gave a very unfavourable prognosis, this gentleman readily consented to perform the operation of lithotripsy.

The patient was prepared for it by light tonics, with small doses of opium and emollient clysters; at the same time a nourishing diet, semicupia, and poultices on the abdomen, were employed. The strength of the patient was by these means somewhat improved, and the fever, in some degree, subsided; the urine continued, however, to be purulent. The irritability of the bladder had so far diminished, as to admit of the daily introduction of an elastic bougie, and of its remaining for some time in the bladder. At the beginning of April, 1827, the health of the patient appeared to be so much improved, that it was thought advisable not to delay the operation any longer.

An injection of tepid water was made, and although performed with the greatest caution, this part of the operation, as well as the introduction of the small forceps, appeared to cause excessive pain, and made the patient almost intractable: at last M. Civiale succeeded in taking hold of the stone. The forceps being of smaller dimensions than usual, and the stone, on account of the great sufferings of the patient, not being well fixed, only a small part of it could be reduced to powder. Some slight irritation of the bladder followed this first attempt, and the quantity of purulent matter in the urine increased; however, in a short time, this exacerbation was subdued, and the patient appeared to experience much more relief than was expected.

On the 31st of May the operation was repeated, but without much success.

On the 9th of June, the patient seemed less affected by the introduction of the forceps,

and a considerable portion of the stone was reduced to powder, and afterwards voided with the urine.

On the 14th of June, the operator was able to introduce a larger pair of forceps, and a great quantity of powder and fragments of the stone was passed after the operation.

At the fifth operation, which was very successful, the patient felt scarcely any pain; but, on the following evening, inflammation of the left testicle and spermatic chord ensued: by the means of leeches, poultices, and absolute quiet, these symptoms subsided within a fortnight.

The sixth and seventh operations were not followed by any bad symptom, and a great portion of the stone was removed in powder and small pieces.

The eighth operation seemed to have completed the cure, and, on the 1st of August, the health was almost perfectly restored; the urine was passed regularly without any pain, the patient had regained his strength, the fever had entirely disappeared, &c.

On the 6th of August, on examination, some fragments were discovered, which were easily reduced to powder, or extracted.

On further repeated examinations, no trace of any remaining fragments could be found, and the patient, at the time of drawing up the report, (in the middle of 1828,) enjoyed excellent health.

From the London Medical Gazette.

HYDATID OF THE LIVER.

Watery and serous, as well as bilious, sanguineous, or purulent collections of the liver, were, until lately, looked upon as very obscure diseases, which frequently remain unknown until death. M. Recamier has cleared up the diagnosis in a very great degree. He forms so accurate a judgment of these affections that strangers, astonished at his success, have attributed it to a species of *medical instinct*, which at first sight teaches him the nature of the disease. The following case will give an idea of the nature of the cysts of the liver, and the mode of operating practised by M. Recamier in order to effect their cure. The cellular tissue is that, without doubt, which is most commonly developed in the liver: it is that which generally forms the parietes of cysts either containing hydatids or not; it extends itself as a dilatable membrane, secretes a peculiar fluid, and this fluid tends in itself also to augment the capacity of this accidental membrane. The patient whose case we are about to relate, named Marcon, 38 years of age, followed a sedentary employment in one of the lowest quarters of Paris. When interrogated as to his former state of health and other circumstances, he said that he had twice suffered from tertian fever, and about five years ago had a severe attack of illness, the nature of which he was ignorant of. He had resided eighteen months in Paris, and had appeared to enjoy good health,

but a melancholic temperament induced him always to consider his disease in a serious light. For about two years he had experienced an abdominal affection, that gave him great uneasiness. At that period he remarked a small tumour about the epigastric region; it disappeared, however, according to his account, and only again became visible about three weeks before his admission into the Hôtel Dieu, which was on the 21st June.

The epigastrium began to swell about the end of May, but without pain: in fact the formation of these cysts is seldom accompanied by any previous inflammation, and this is the case with regard to many other affections of the liver, and accounts for the frequent errors of diagnosis that are committed. Marcon perceived the tumefaction to augment considerably during the eight days previous to his admission into the hospital, and then lancinating pains in this region were first felt. On the 17th June he began to vomit every kind of food, generally a few minutes after swallowing it—sometimes a quarter or half an hour after, but seldom more. On the 20th June the tumour was found to be very painful to the touch, but the patient had no fever, and what is of importance in the diagnosis, he declared that he had not experienced any feverish attack from the commencement of the disease. We must here remark that the tertian which the patient had been affected with a long time before, appeared to have no connexion with the present malady.

On the 21st the tumour had become still larger, and the pains extended to the navel. Twelve leeches were applied, and the patient was put into a warm bath. From the 23d to the 26th the symptoms became more serious, the sleep was interrupted, and violent pains were felt throughout the whole extent of the tumour. Twelve more leeches were applied, warm baths employed, and two ounces of castor oil given to overcome the constipation.

On the 27th the patient was better. The tumour occupied the whole epigastrium, and it was easy to trace its boundaries inferiorly. M. Recamier declared the nature of the tumour, and after having employed percussion several times, proposed to make a puncture. Percussion alone, he observed, furnishes important information relative to the existence of hydatids: a kind of trembling is produced, which an experienced hand cannot mistake, and which is not felt in any other case.

M. Recamier calls his exploratory puncture a true acupuncture, on account of the smallness of the instrument which he employs. The fluid which issues forth shows him the precise nature of the affection; and upon seeing the liquor that escaped in this case, he confirmed the diagnosis he had already given. A piece of potash was applied, according to the method of the professor, in order to determine the adhesive inflammation. The day following an oval-shaped eschar was produced, the largest diameter of which was from above downwards. Barley-water was prescribed for the patient's drink, and on the

29th another piece of potash was applied. On the 1st of July two ounces of castor oil were required, to remove constipation, and a third application of the caustic was made. The pain in the cyst augmented, and fever came on. The eschar had not fallen out on the 7th, but the neighbouring inflammation having developed itself properly, a tolerably deep incision was made in the whole line with the bistoury. This gave vent to about half a pint of serosity slightly turbid. The day after about a pint escaped. The patient, however, continued to suffer great pain, and complained of general uneasiness. In all such cavities M. Recamier considers it as highly important to prevent the introduction of air. It is the same in the synovial cavities and in the pleura, after the operation for empyema; if the air penetrates the discharge puts on a bad character, hectic fever becomes lighted up, and the patient perishes. A sufficient quantity of Eau de Guimauve was therefore injected into the cavity, to fill it. The patient from this period found himself much better; the fever entirely ceased, and the abdomen became less tender upon pressure. Emollient drinks, baths, and cataplasms, were the only remedies employed.

On the 12th the tumour was dispersed, and on the following day the amendment was still more evident. Nevertheless the patient was sombre and morose, and still persisted in viewing his situation in the most unfavourable light; even to the end of July he appeared discouraged.

On the 5th of August the belly was still a little painful, and appeared larger than natural, and its sensibility was yet considerable in the epigastric region. A fresh puncture was made, and immediately a fluid of the most foetid odour escaped: hydatids were voided with the fluid which was contained in the cyst. The day following the patient found himself much better, and some little time afterwards his spirits began to revive. Every day the dressing was performed with great nicety; the artificial opening was preserved by means of sponge lint, and the quantity of fluid injected became smaller. The parietes of the cyst were discharged in fragments with the fluid, which afterwards was strongly tinged with yellow. The state of the patient is now satisfactory; the appetite begins to revive, he lies upon the side and sleeps all night, and the capacity of the cyst diminishes every day.

From the London Medical Gazette.

PERFORATION OF THE INTESTINES BY A WORM. By Mr. KELL.

William Whittaker, ætat. 25, of a florid complexion, stout and well made, rather short; has served two years and six months east of the Cape of Good Hope, and enjoyed good health since his arrival here. Complains of having severe pain in the epigastric region; cannot rest on either side; pulse 76; tongue

is dry and furred; thirst urgent; head slightly painful; skin hot; urine high coloured. He was admitted into hospital at a late hour in the night, and had a purging draught, which has operated thrice.

Six o'clock, A. M.—Emitt. sanguinis uncia triginta duo. Sumat statim, Hydrargyri Submuriatis gran. quinque. R Infus. Sennæ, ℥ij. Magnesiæ Sulphatis, ℥iv. M. Fiat haustus, post horas quatuor sumend.

Vespere.—The pain in the epigastric region not less; purged frequently; the blood firm, not buffed.

App. Emplast Lyttæ parti dolenti.

14th Nov.—He slept little during the night, which he attributes to the pain of the blister. His bowels continue free; stools liquid and yellow; urine high-coloured and scanty; surface hot; tongue white; thirst urgent; pain in the epigastrium rather diminished; pulse 76, full; no appetite.

Sumat mane nocteque Hydrargyri Submuriatis gr. quinque.

Infric. Cruribus bis in die Unguent. Hydrargyri drach. dimid.

Vespere, 14th.—His bowels continue free. Evacuations liquid and yellow.

15th Nov.—Complains of pain in the epigastrium, lumbar region, and lower extremities. Slept some hours during the night. Pulse 84; skin hot; tongue furred; great thirst. Bowels are loose; stools liquid, and of a yellow colour; urine scanty.

R Pulveris Antimonialis gran. duo. Hydr. Submuriatis gran. tria. M. Cons. Rosæ, q. s. Fiat pilula sextâ quaque horâ sumenda.

Omitt. Ung. Hydrargyri heri prescript.

3 o'clock, P. M.—Reports not being purged since morning, and of having once passed a little urine. Pain felt in the hypogastric region and along the perineum. Pulse small; tongue furred.

Sumat statim Olei Ricini Unciam. Semipium quam primum.

15th, *Vespere*.—He has been purged once since taking the oil, and passed a little urine. Pain is rather less; *abdomen more full* than in the morning.

R Ætheris Nitrici, ℥ij. Aquæ Ammon. Acet. ℥iv. Oryzæ, Oi. M. pro potu ordinario.

16th Nov. 6 o'clock, A. M.—He complains of most distressing pain in the lower part of the abdomen. Pulse small, weak and frequent; tongue furred; thirst very urgent. Perspired much during the night. No urine discharged since last evening, or any alvine evacuation since last report.

R Infusi Sennæ ℥ij.; Magnesiæ Sulphatis ℥ij. M. Fiat haustus, statim sumendus.

Habeat quam primum balneum tepidum.

16th, 9 o'clock A. M.—The cathartic draught rejected, and much bilious fluid discharged from the stomach; has not been purged or passed urine since last report; the abdomen swollen and highly painful. A catheter introduced, and four ounces of dark coloured urine discharged. Remained in the bath thirty minutes.

R Opii granum unum; Hydrargyri Sub-

muriatis gr. quinque. M. Fiat pilula, statim sumenda.

R Potassæ Supertart. ℥ss.; Aquæ Oryzæ libras duas; Aquæ Ammon. Acetat. ℥iv. M. pro potu ordinario.

R Magnesiæ Sulphatis ℥iv.; Decocti Oryzæ ℥xvj.; Olei Olivæ ℥ij. M. Fiat enema, quam primum injiciend.

3 o'clock, P. M.—He has vomited constantly during the day; fluid rejected of a dark green colour; tongue is furred; thirst distressing; surface of the body covered with cold clammy perspiration. The abdomen more swollen, highly painful; and fluid perceptible on examination with the fingers. Pulse small, frequent, and feeble. Has been purged once since last report; desire to pass urine most distressing; and at the patient's request a catheter was introduced, but the bladder contained no urine.

Repet. balneum tepidum. Injiciatur enema emolliens post balneum.

Vespere.—He has been purged thrice since last report; evacuations thin and yellow. Urine suppressed; vomiting constant. Pulse imperceptible at the wrists. The abdomen is more swollen, and fluid more extensively diffused throughout that cavity.

Died at 10 o'clock, P. M. 16th.

Sectio Cadaveris, 17th November, 10 o'clock, A. M.—The abdomen externally presented the appearance of an ascitical subject. On exposing the cavity of the abdomen the omentum was found shrunk and highly inflamed; and amongst the intestines, (between the umbilicus and pubes,) a round worm, (*lumbricus teres*) near eight inches long, was discovered. Several quarts of yellow fluid were diffused through the cavity. The surface of the liver, and other abdominal viscera, were coated with coagulable lymph. The external surface of the intestines was highly inflamed, and the *intestinum ileum*, (about six inches from its union with the cæcum,) had been perforated by the worm, and admitted the fluids contained in the intestinal canal to pass into the cavity of the abdomen. The opening was of a circular form, and corresponding in magnitude to the worm. The liver was not enlarged, its structure healthy; the gall-bladder filled with bile. The kidneys were much enlarged and inflamed. The urinary bladder was sound, and not any urine in it. The thoracic viscera were in a healthy state.

Port Louis, Mauritius, Nov. 13, 1827.

From the Lancet.

CASE OF EXTIRPATION OF THE UTERUS. By JOHN MAURICE BANNER, Esq., Surgeon to the North Dispensary, Liverpool.

In May, 1827, I was first called to Mrs. J., on account of retention of urine. On inquiry, it appeared she had suffered occasional shooting pains, from pubes to sacrum, for near two years; that these had become more frequent,

were accompanied with pain across the loins, sense of weight within the pelvis, and bearing down, and that she was much troubled with dyspeptic symptoms; I examined the os uteri, and found it painful on being touched, thickened, hard, and irregular. Catamenia were irregular.

The patient was 44 years of age, had enjoyed good health to within the last four years; was married at the age of 21, and had had two children. In a few years her husband died, and since then she has led a very irregular life. She states that her father died of a cancerous affection; that it was twice extirpated from the breast, and subsequently once from the axilla; that at length he died, after suffering severely for several years.

The removal of the neck of the uterus was now proposed, but not assented to.

In July, 1828, I was again requested to visit her. Various remedies had been used by a physician, with no permanent benefit; frequent hemorrhages, to a greater or less extent, had taken place. The pains were increased, and a quantity of bloody offensive matter had passed some weeks previously, per vaginam. On examination, I found that ulceration had taken place to a small extent, on one side of the os uteri. The general health was evidently impaired. In this state, she determined to undergo the operation that had been proposed to her in 1827, which, however, I thought would be unjustifiable, as no boundary to the disease could be felt by the most careful examination, the hardness of the neck appearing to extend to the body of the uterus, as far as could be ascertained. In this state she continued until the beginning of August, when I mentioned to her the operation of Dr. Blundell, with its dangers; informing her, at the same time, that his patient had recovered. She consented to its performance, and requested it might be done without delay.

The operation was therefore performed at noon on the 2d of September, with the assistance of the following gentlemen:—

Dr. Renwick	} of the Liverpool In-
Mr. Bickersteth	
Mr. Dawson	
Mr. Halton	

and my colleague at the Dispensary, Mr. Wainright.

The patient being placed on her back, as in the operation for lithotomy, but without binding the hands and feet, Weiss's speculum vaginae was introduced, and held by an assistant; a strong hook was then passed into the anterior part of the cervix, and the uterus drawn down, with little difficulty or pain, to about half an inch from the os externum. A strong aneurism needle, (with a handle,) having its extremity pointed, and armed with a double ligature, was then passed through the neck of the uterus, the hook withdrawn, and the ligature held by an assistant, whilst the speculum was also removed, and the labia held out of the way by those on each side. I then made a semicircular incision on the in-

ferior part of the cervix, through the vagina and peritoneum, and widened it with a hernia knife from one broad ligament to the other; afterwards, a similar incision was made at the superior part, and extended as before, so that the broad ligaments and fallopian tubes only remained to be divided. To accomplish this, I first passed the index finger of the left hand through the upper opening, and the middle finger through the lower, including the right broad ligament between them. I then carefully made an incision, with a scalpel, between the fingers and uterus, close to its body; the nearest part of the included portion was thus divided, and was attended with slight hemorrhage. Some time was lost in endeavouring to secure the bleeding vessel, which, however, proved unsuccessful. The hemorrhage not being very profuse, I proceeded with the operation, but finding my former plan of dividing the broad ligament tedious and difficult, I brought down the fundus, by passing two fingers through the upper incision, and then the strong hook between them and the uterus; the point of the hook was easily pressed into the fundus, and thus the object was quickly accomplished. The fallopian tubes and remaining part of the broad ligaments were now distinctly seen, and by passing the fingers beneath them, were divided with the common scalpel, close to the uterus. This was by far the most painful part of the proceeding.

During the operation the patient lost about six ounces of blood, and was much troubled with retching. The intestines did not protrude, nor interfere with any part of the operation. Immediately after the patient appeared as well as could be expected; there was a very slight oozing of blood, but apparently of so little consequence that she was removed to bed. In the course of twenty minutes, or half an hour, she vomited severely, and became very faint; a coagulum of about eight ounces was expelled: vinegar and water were applied to the abdomen and upper part of the thighs; she then rallied a little, and after complaining some time of pain at the lower part of the abdomen, the vomiting recurring, another coagulum, rather larger than the first, was expelled. She now fell into a state of syncope; the retching remained severe, and almost incessant. One hundred drops of laudanum were given, but immediately rejected; small quantities of brandy were administered, the cold cloths continued, and the patient kept in the horizontal position. The hemorrhage did not return after the expulsion of the second coagulum, and the pain in the abdomen subsided. She again rallied, and, in the evening, as the vomiting continued extremely distressing, two grains of opium were given, which relieved for two hours; the sickness then returned, and four grains were given, with the same effect as the first dose.

Sept. 3, *mane*. Has passed a very restless night; countenance pale and dejected; pulse 96, and weak; skin moist, and of a natural

temperature; slight pain in the abdomen and back; vomiting less frequent.

Meridie. Slight distention of the abdomen, especially over the pubes; has not passed any urine since the operation, nor had any evacuation from the bowels. The catheter was introduced, and twelve ounces of high coloured urine drawn off; afterwards the tension was much diminished.

Vespere. Bowels purged freely by injections, and small doses of sulphate of magnesia in infusion of roses; vomiting and pain relieved.

Sept. 4, *mane.* Has passed a better night, having slept a little; general appearance as yesterday; pain in the abdomen slightly increased on pressure; little or no tension; pulse 94, rather fuller; vomiting much the same; tongue slightly furred; complains of great thirst; bowels freely open; passed urine twice.

Meridie. Pulse 106, harder; pain and tension slightly increased; bowels open; 24 leeches were applied.

Vespere. Pain little abated; pulse remains quick, and rather hard; about twelve ounces of blood were taken from the arm, when syncope supervened.

5, *mane.* Has passed a restless night; pain much relieved after the bleeding; the abdomen remains slightly distended, and somewhat tender on pressure; has had two evacuations, and passes her urine freely; vomiting continues, and appears to produce great exhaustion; pulse 120, small and weak; the mustard cataplasm was applied, which gave relief in about twenty minutes.

Meridie. Pain and tension less; vomiting and thirst much abated.

Vespere. The symptoms above mentioned worse; pulse very quick and weak; countenance anxious; cold sweats.

6. After passing a very restless night, and the symptoms continuing with great violence, died at six, A. M.

The above are the most prominent symptoms that occurred. I have thought it unnecessary to make a longer detail of the treatment, as it was not attended with a fortunate result, and was only that usually employed after hernia, and similar operations. It of course consisted of general and local bleeding, with the exhibition of purgatives, as far as the condition of the patient appeared to warrant.

The Appearances of the Uterus.—The uterus was much larger than in the healthy state; several tubercles of various sizes were loosely attached to the body and fundus, they were round and very hard; the cervix and body were considerably thicker and harder than natural; ulceration had taken place on the os uteri, particularly the lower lip. A section of the uterus exhibited the common appearances of scirrhus; a circumscribed hardness was very perceptible, extending from the cervix to the body on the left side: several small, round, hard tumours were imbedded in the substance of the fundus.

Examination of the Body five hours after Death.—On exposing the cavity of the abdomen, the omentum and intestines were found highly inflamed, and adherent to each other by an effusion of lymph. Several folds of small intestines filled the pelvis, and were more inflamed and adherent than those above. The lowest convolutions were firmly adherent to the cut surfaces made in the operation and to each other, so as completely to close the aperture from within; only a small quantity of serum was effused. The bladder was natural. The peritoneum, lining the pelvis, had, in general, a greenish and somewhat dull appearance, which, by some present, was thought to be of a gangrenous character, but its texture was perfectly firm and unyielding. The ovaria were retained in their usual position by the remainder of the round and broad ligaments. The fimbriated extremity of the left fallopian tube was found closed, and distended with serum, nearly to the size of a hen's egg, and gradually narrowing along an inch of the tube to a point, where it was again closed. The ovaria were, as is usual in persons who have borne children, flattened and corrugated, as if covered with cicatrices. The duplicatures of peritoneum, forming the broad ligaments, were more separated below than above, where they enclose the ovaria, and were thus kept in union. A very careful examination was made to discover, if possible, the sources of hemorrhage. The arteries were probably retracted, as none could be found divided, but the mouths of several considerable veins were seen distinctly on the right side, where the layers of the broad ligament were separated, and traced to the plexus at the side of the pelvis. The branches of the internal iliac on this side, and the spermatic arteries, were examined, but no irregularity as to size or distribution was discovered.

The following are a few observations I beg to offer on the above operation, and its consequences:—

1st. I think it due to myself and the profession to state, that it was not done precipitately. I had been in attendance, more or less, for sixteen months; the woman was in great and almost constant pain, rendered unable to follow any occupation, and was extremely anxious to have some method of relief attempted; the disease was advancing, the operation and its dangers were fairly explained, and she persisted in wishing its performance. These circumstances appear to me absolutely requisite to warrant the performance of so formidable an operation. Dr. Blundell appears to have taken the same view of his case.

2dly. The operation performed on this occasion, I conceive, admits of more safety and expedition than that performed by Dr. Blundell. There was no difficulty, nor much pain, in bringing down the cervix uteri within sight, when two important parts of the operation were performed, without any danger of wounding either the rectum or the bladder.

The fundus uteri was drawn down through

the upper opening, which, as it was thus brought in the direction of the round ligament, appears preferable to bringing it through the inferior or lower one. Whether it would be better, in a future operation, to divide the broad ligaments *in situ*, without bringing down the fundus, which certainly commits a degree of violence to the parts, I leave for experience to decide; I found it more difficult than I had anticipated, from the great depth I had to reach, and, after making one or two attempts, and wishing to shorten the operation as much as possible, I desisted.

3dly. The hemorrhage, at least as far as a careful examination of arteries uninjected may be depended upon, arose, not from the division of any vessel that ought not to have been divided, but chiefly from those common to the uterus. One or two rather large veins, coming off from the plexus at the side of the pelvis, were found divided; and when it is remembered that these veins have no valves, it is not unlikely a very considerable hemorrhage may have proceeded from this source alone.

The operation lasted twenty-five minutes, and would have been much shorter, if some time had not been lost in endeavouring to secure the bleeding vessel.

From the London Medical Gazette.

EXTIRPATION OF THE UTERUS.

This operation has been performed under different circumstances, which require to be distinguished, to prevent the results in one class of cases from influencing our estimate of the operation in cases which are dissimilar.

1st. Osiander performed the excision of the neck of the uterus, and M. Lisfranc has repeated it so often, that there can be no doubt of its being in many instances an operation without pain or danger. No one, however, who knows the subject accurately, can read these cases without seeing that the operation was in the great number of instances unnecessary, from the absence of malignant disease, while in those cases in which such disease was present it was unsuccessful. What is called cancer of the uterus is seldom or never so confined to its neck that the removal of this part will remove the disease; and all that these operations prove is, that the operators know little of the disease which they imagine they are extirpating, and that the excision of the neck of the uterus is not attended with so much danger as might have been anticipated. Let not, however, the impunity with which the neck of the uterus has been removed be confounded with the result of extirpating the whole organ—they are entirely different operations; and what is true of the former, throws no light on the latter.

2dly. Cancer has occurred conjoined with a complete collapse of the uterus, so that the whole organ has protruded externally, and has been removed by a ligature round the in-

verted vagina, above the tumour. As this compound case occurs very rarely, this operation very seldom admits of being performed.

3dly. The inverted uterus has been removed successfully by ligature. In this operation it is the fundus and part of the body only which are removed; the rest of the body, and the neck, through the orifice of which they had protruded, being left behind.

4thly. The whole uterus, in its natural situation, has been removed in a considerable number of cases on the continent, and lately by Dr. Blundell in this country. A month or two ago this enterprising practitioner favoured us with the details of a successful case, which has produced a strong sensation among the practitioners of England. We learn, on unquestionable authority, that he has since then performed the operation again, and that the patient died, (it is said of hemorrhage,) within six hours afterwards. We know, on equally good authority, that he had performed the operation some time before the successful case, and that the patient died soon after in a state of collapse, without any hemorrhage to explain it. Of the three operations, therefore, which Dr. Blundell has performed, only one has been successful,—the two others being followed by the speedy death of the patients.

In our last Gazette we published a case in which this operation was performed by Mr. Banner, the surgeon of Liverpool; and in which the woman died on the fourth day after the operation. We applaud the conduct of Mr. Banner on this occasion—not merely for the dexterity with which he seems to have operated, but for the courage and candour with which he comes forward and publishes an unsuccessful case.

The extirpation of the whole uterus has now been performed in England four times within the last two years; three times by Dr. Blundell, and once by Mr. Banner of Liverpool: of these cases one only has recovered; the three others have lost their lives. It is important that this should be known, that those who venture on the operation may be fully acquainted with the slight chance which it affords of success. The extirpation of the whole uterus may be called the forlorn hope of surgery—a kind of lover's leap; in which most of those who take it perish in the attempt, but those few who escape alive are cured.

We sincerely hope, and fully expect, that Dr. Blundell, having published his solitary case of success, will publish also his two unsuccessful cases; for on such a subject, not only the truth, but the whole truth, ought to be told, in order to guide the profession right in so difficult and important a question. It may be some time before he has leisure to draw up an account of the particulars; in the meanwhile this general statement may supply its place, and is especially necessary, because cases are continually occurring in which the propriety of performing the operation will have to be discussed, and which renders an

accurate estimate of its dangers of the utmost value. Let it be remembered that out of four cases in which the uterus has been extirpated in England three have proved fatal.*

From the Medico-Chirurgical Review.

DISEASES PRODUCED BY MALARIA.

An Essay on the Remittent and Intermittent Diseases, including Marsh Fever, Neuralgia, Dysentery, Cholera, Tic Douloureux, Sciatica, Headach, Palsy, &c. &c. By JOHN MACCULLOCH, M.D., F.R.S

[ART. II.]

DYSENTERY—CHOLERA—AGUE.

In pursuance of our design to exhibit an extensive survey of our ingenious author's researches, we naturally turn from remittent fever to dysentery, cholera, and ague. This last malady is now very generally prevalent over England, though masked and disguised in a thousand different shapes. We, therefore, intreat a patient and very careful perusal of the following article, and we beg that each practitioner will look round him, with an unprejudiced eye, for proofs or refutations of the views here taken. This exercise of his intellects will be amply rapid in the end.

In respect to the first of these scourges of the human race, although Dr. Macculloch has but little personal experience, he has ample materials to draw upon in support of his doctrines, from the experience of others. Very few authors have written on dysentery, without tracing its cause, especially when epidemic or endemic, to terrestrial or aerial influence—aerial *impregnations* being as often blamed as atmospheric *vicissitudes*. The connexion of this disease with intermittent and remittent fevers has been remarked by all writers. The *nature* of this connexion, that is, the *proximate cause*, or condition of dysentery, is rather timidly, if not reluctantly, touched on by Dr. M.

"To illustrate, slenderly, what is here meant, we have, in severe cases of the remittent fever, that local affection of the stomach which causes the black vomit, that analogous one of the liver which produces what are called bilious symptoms, affections of the head, and so forth, besides all the more radically local and partial diseases of which I have here treated at some length. It is not therefore difficult to comprehend, yet very generally and broadly, how such localization, or determination to the intestines, may produce dysentery; while this will vary as fever is conspicuously combined with it, or as the local affection is such as to supersede in a great degree the general one: while yet further, it is easy to imagine that if the affection in ques-

tion should attach preferably to one or to another portion of the intestines, to the duodenum for example in one case and to the colon in another, (a fact very conceivable from their differences in character, structure, or sensibility,) all the varieties of dysentery as to the most obvious effects might be the result." Vol. I. p. 218.

This view, Dr. M. observes, becomes nearly identical with "that French theory, often differing from former ones only in its term," which supposes dysentery to be an enteritis, i. e. inflammation of the mucous membrane of the small or great intestines. The difficulty, as Dr. M. justly remarks, lies in accounting for the morbid miasm or malaria producing in one man a remittent, in a second, an intermittent, and, in a third, dysentery. Our author conceives that there is little, if any, real distinction between diarrhoea and dysentery. He evidently believes that the late endemic at the Penitentiary was the product of malaria, a doctrine, by the way, which is not impugned by the succeeding healthiness of the place. In all parts of the world, we see localities healthy for a series of years, and then suddenly, and without any ostensible cause, becoming completely pestilential. The East and West Indies, the Netherlands—in short, all parts of Europe furnish abundant examples. Dysentery, in this kingdom, is seldom severe or dangerous, and its treatment is pretty well understood. In tropical climates, where the disease rages on a larger scale, medical practitioners are also pretty much of one opinion as to the treatment.

In respect to cholera, we have always maintained that it is the product of some deleterious agent, emanating from the earth, and more or less diffused in the air. Dr. M. has come to the same conclusion. The following is one of the facts which have led him to this conclusion.

"A frigate had cruised long on the coasts of India where this disease was raging on shore, retaining her health, however, and, as was believed, by rigidly avoiding any communication with, or even approach to the land; the captain's conduct in this respect having arisen from his experience of African fevers. Being on one occasion at anchor about three miles from the shore, the land wind came off to the vessel, and with such effect, that the usual smell attending malaria, well known to the officers and men from African experience, was immediately sensible. There was not at this time a sick man on board, while there had been no communication with the land for many weeks: and the alarm being immediately taken, the vessel was ordered to weigh for sea; while, as had been the constant practice, every man not wanted on deck, was ordered below, for the purpose of avoiding the effect of the malaria thus blown off to sea in the manner which I have described in the essay on that subject. An accident having happened to the iron-cable, the armourer was the first man employed, almost alone, on deck, in disengaging it; and though in perfect health

* Since writing the above, we have heard that the operation has been performed in Edinburgh, by Mr. Lizars.

when he came up, he was immediately seized with giddiness, was quickly rendered incapable of proceeding with his work, became insensible within three hours, and died of this cholera, which also seized on four of the crew before the vessel could get under weigh; the whole of them dying in the same manner." 222.

Dr. M. conjectures that the Indian cholera results from the ordinary miasma of fever in some peculiarly concentrated state, the effects bearing an analogy to what sometimes happens in the plague. The local affections of the stomach, bowels, and liver, are the most prominent features in this dire disease—we might therefore, Dr. M. thinks, consider cholera as a "localized remittent of peculiar severity, and with two or three local affections at one time"—"a fever, in which minutes perform the destructive duty of hours, days, or even weeks; or in which, from its rapidity, there is scarcely an initial stage—as if the disorder commenced where it more usually terminates." With other conjectures, or plausible hypotheses respecting cholera, we shall not trouble our readers, at the present time, but proceed to the next subject.

INTERMITTENT FEVER.

We agree with the author, that there is hardly a fact better established in medicine, than that ague is produced by malaria. He thinks it is by no means proved that there is any other cause—at least of the original disease, or first attack, although various causes may have the power of re-exciting the disease. We shall not follow Dr. M. through a detail of the common phenomena or symptoms of ague:—they have, of late years, been presented pretty generally even to English practitioners. But we shall here notice some very interesting observations which our author has made on certain states of mind attendant on, or connected with intermittents, whether obvious or obscure in their forms. This state of mind is a peculiar irritability or despondency, more especially revealing itself in the cold stage, or incipient movements of the disease.

"It is in fact at times, the sole cold fit, or almost the only disease; though a watchful eye may always discover that it is connected with that collapse of features or change of expression which attends every cold fit of intermittent, and, very commonly, with that peculiar physiognomy, easier recognised than explained, which, to an observant eye, is always sufficient to indicate every disease, general or local, connected with intermittent, or arising from malaria; an appearance which, when more strongly marked in the pallid hue of the face and the shrinking of the nose, ought to decide the question, even to the most negligent observer.

"Of its true nature and case, be the moral results what they may, no doubt can be entertained, because of the suddenness of the attack, and of its periodical character; and it thus happens that in almost a second of time, and even in the midst of active good humour,

or passive feelings of comfort or happiness, the fit of ill temper, or irritability, or despair, of a moral change under modes too various to detail, will occur, to last as long as the cold fit would have lasted had it been present; or lasting, when that is visible, just as long as the duration of the peculiar physiognomy which I have described. To be aware of this fact and this cause, on the part of the patient's circle, is to be furnished with reasons for making that charitable excuse which is seldom made, if ever, for what self-control might be supposed capable of preventing, and perhaps not much oftener for what is unavoidable; so rare is this species of charity: for the patient to be aware, himself, of the cause, is to furnish him with a guide for his own conduct in these circumstances, and a check over the display of those feelings; while it is also to offer him the consolation of knowing that it is his body rather than his mind which is diseased; that his perverted temper is not a moral and voluntary fault or failing; but as involuntary as it is capable of being remedied." 246.

Such a disorder of mind may be readily confounded with hypochondriacism. Such are the milder moral derangements in the milder chronic intermittents.

"But in severe cases of both, the united state of irritability and despair is apt to produce the far more serious effects of stimulating the patient, at least to think of suicide. This insane desire is a very common complaint of patients labouring under intermittent, and a very frequent source of great alarm and horror; while it occurs equally in patients who, before that, were cheerful, as well as youthful, in the female sex as in the male, in persons where, either from previous knowledge of their opinions and characters, or from observation in absence of the fit, we are quite sure that it cannot depend on a wrong state of mind or of opinions, but is as rigidly a portion of the disease as it is found to be a periodical one." 248.

That such states of mind are very frequently produced by corporeal derangements we well know—and that these bodily affections are not seldom dependent on the impression or reception of malaria, we have strong reason to believe. How generally malaria deranges the functions of the viscera, and especially the liver, stomach, and other digestive organs, need not be told; and that these derangements produce the most dreadful mental despondency, and lead often to suicide, are facts that are every day becoming more obvious to the attentive medical observer.

It is very important that these effects of intermittents should be known and understood both by patient and practitioner—since a knowledge of the real causes will be a great relief to the minds of those who, under such circumstances, are haunted for years with this species of phrensy or mental alienation. The desire for suicide is often exceedingly temporary, even when it is most overpowering; and if controlled with resolution, it soon passes away. To be aware, therefore, of the real

nature of the adumbration may frequently tend to obviate its dire effects.

"There is another remark yet, which it may be worth while to make on this mental disease, whether or not it is really connected with intermittent in all cases. I have clearly ascertained it to be so, at least in some; or rather, every instance of the desire or attempt in question under this peculiar variation, which has come under my knowledge, has been a case under intermittent. As relates to the desire, the simple fact is, that the patient feels a species of antipathy against some peculiar part of his body, added to the general disordered feeling, or he longs to commit the act by wounding that particular point; while, whether his aberration amounts to the desire of suicide or not, this very point or place is the one eternally forcing itself on his imagination as an object of hatred and revenge. And so perfectly insane is this feeling, that I have been informed by more than one patient who has suffered from it, that there is no conviction at the same time that death would follow; or rather, that the impression is as if the offending part could be exterminated or cured by the injury, and that the patient would then be well. And that suicide has actually been committed under this particular aberration, is well known from the more curious records of physic; while I need not do more than suggest one peculiar part of the body which has been often the offending and selected point; the act having been sometimes also, but not always, followed by death." 251.

Dr. M., we have no doubt, alludes to those cases of monomania, where men have severed the genital organs, from some momentary impulse of local antipathy or feeling which can only be known by the individual at the time.

"The philosophy of this, as far as my opportunities of observation have gone, and on the indicated ground of explanation, for these cases at least, is, that while the irritable, or jointly despairing and raging or angry state of this chronic fever is present, there is also a particular part of the body affected by an uneasy but undefinable sensation, such that the mind constantly reverts to it as a source of suffering. And if this local affection is not a neuralgia, or a condition of absolute pain, yet it is a local and nervous one of an analogous nature, always returning to that one point under the same stage of the fever or delirium. When, as is not unusual, it is seated in the head, it is even distinguishable by a dull pain, or a confusion, or a sensation of 'buzzing' (for thus it is described by patients,) in one fixed place, indicating pretty clearly its real nature: while, in that particular case, I have the assurance of such patients, that the suicidal desire is exclusively directed to that individual spot, and that while a pistol would be the only acceptable mode, there would also be no satisfaction unless that were directed to this actual and only point. But I will cease, and allow physicians to exert on this solution of no easy question, the ingenuity which has

not hitherto succeeded in producing an intelligible explanation." 253.

Our author inclines to the opinion of Strack, that an intermittent fever may consist of only one paroxysm, finding its natural termination after one attack—"and consequently that the fever called ephamera is, in reality, often a single intermittent." Strack observes, that this is the disease which terminates in an eruption on the lips. If Hippocrates is any authority on such a nice point, he may be thrown into the scale with Strack and our present author.

It was, and perhaps still is an opinion, (medical as well as popular) that agues, at least those of Spring, are salutary. This notion was entertained by Boerhaave, and by many great names in our own country! Dr. M. thinks it probable that this idea arose from the fact that ague sometimes removes a chronic disease—or from another fact, that men not unfrequently become fat after a sharp attack of intermittent fever, especially in Flanders. It is curious that this obesity is not prevented by enlarged spleens and other visceral derangements, in many instances:—nay, even the daily paroxysms of ague, if not very violent, are sometimes compatible with an increase of corpulency. In whatever way we may account for this, the fact proves that ague, under ordinary circumstances, is not very prejudicial to the constitution, unless it be protracted or severe. But, on the other hand, we often see rapid emaciation, great loss of muscular power, and visceral derangement superinduced on intermittent fever, in all, but especially in hot and unhealthy climates.

ANOMALOUS, OBSCURE, AND SIMULATING INTERMITTENTS.

Hitherto our author forbore to notice those epidemics, where very marked local inflammations of particular organs were such prominent features as to render the mere fever of comparatively little moment. He reserved them for this place, in order that he might the better illustrate the anomalous, localized, or simulating intermittents, a knowledge of which he considers as of paramount importance. These local inflammations affect almost every structure in the body, from the muscles and ligaments to the most vital organs—simulating or nearly equalling genuine idiopathic inflammations of these several parts, and introducing great diversity of opinion among practitioners as to the nature of the disease and the proper mode of treatment. If these phlegmasiæ occur, and all must acknowledge that they do occur, in marsh or continuous fevers, so it is reasonable to believe that they are attendants on intermittents, which are only kinds of the same fever, and thus they may be productive of great error or delusion.

"The inflammatory, or local affections, be they what they may, may be slender and truly supplementary; but they may also prevail so far above the fever, as in remittent, that they may appear to be a distinct disease, or the

superior one; while if, further, the local affection should be permanent or continuous, when the fever has its intermissions, and perhaps long ones, as in quartan, and while, still further, that fever may not be very conspicuous compared to the local symptoms, it is easy to see that erroneous views and erroneous practice may follow." 280.

Dr. M. apologises for dedicating so large a space in his work to an investigation of the chronic forms of anomalous and simulating intermittents; but we think he need not fear censure on this account, for we verily believe this chapter to be one of the most original and valuable in the whole work. We regret indeed, that the tedious tautological manner in which he treats his subject, will deter most of the reading practitioners (not a very large proportion) of the day, from profiting by his researches:—since few of them will be at the pains of reading a passage twice, if they do not fully comprehend it at the first glance.

The first subject of investigation is the apoplectic state which sometimes commences the attack of intermittent as well as remittent.

"This state is not limited, either to the first attack or to the acuter forms of these fevers, although in Italy that appears to be the most common mode of its occurrence; as I have seen, in this country, a perfect apoplexy, to the eye, in all its characters, sufficient to deceive both the attending practitioner and the friends, lasting for eight hours, and occurring in a chronic tertian of many years' standing, as a substitute for the cold fit." 287.

The danger that may result in practice, from an error here, is obvious enough. Venesection, to the amount generally employed on such occasions, might occasion palsy or even death—at all events, it would aggravate the symptoms. Dr. M. has seen local and limited paralytic affections produced by this practice, in many instances, "and in more than one, a perfect and incurable hemiplegia." We doubt whether Dr. M. could positively determine that a hemiplegia was thus produced. In common hemiplegia, permanent hemiplegia, there is generally an effused clot of blood; and if so, how can it be positively ascertained whether or not there is extravasation in consequence of venesection unnecessarily employed, without the aid of dissection? By this we do not mean to impugn the doctrine of simulated apoplexy. At page 455 of the 8th volume of this series,* we have stated a very remarkable instance in our practice, and we could adduce several others; but we think that Dr. M. has carried doctrine too far in the above cases of hemiplegia. We could more easily conceive that death would ensue from copious venesection in simulated apoplexy than that permanent hemiplegia should ensue.

"A modified condition of this nature, is the lethargic or comatose state, which occurs in

the chronic intermittents as well as in the remittent of that character, and which also sometimes ushers in the first attack of an intermittent, in the same manner as the more perfect apoplexy does. It is incumbent on the practitioner to investigate this symptom or condition where it occurs, much more accurately than it is the custom to do; while it is abundantly easy to discover whether it belongs to this disease or not. To view it as an independent disorder, and as arising, according to the popular and fashionable error, from what is called a flow of blood to the head, is a most unpardonable mistake, from its leading similarly to injurious practice; to blood-letting and to cupping: the consequences of which also are, sometimes, paralytic affections, at others, slight epileptic ones, or even more decided fits of that disease; in others again, a modified fatuity, or a diminution of the intellectual powers, or a condition little short of absolute idiotism: and, even, in the least evil event, a long train of debility and nervous symptoms, with the further frequent consequence, as in the former case, of rendering chronic a disease which would otherwise have terminated by itself, or of protracting much longer and more severely, a disorder already chronic. It is one of the cases, and one of the modes of practice, yet but one out of many, which so often causes medical interference to aggravate the diseases of this nature. I shall only further remark, that this error is most generally committed, as I have seen in numerous instances, and as perhaps might have been anticipated, when the patient is corpulent, or of a certain form, or advanced in life, or when suspected of indulgence in eating and drinking: when it will be fortunate if he escapes blood-letting or cupping, to be simply deprived of the use of wine, or restricted in diet; though even practice of this moderate nature is not always without its bad effects." 289.

Paralytic affections, as occurring in these masked intermittents, are next adverted to by Dr. M. Dr. M. has not found any practitioners "who seem to know that palsy is the frequent produce of malaria, or the substitute for intermittent fever, or a symptom in that disorder." We believe that such cases are not generally known or suspected by British practitioners; but it has long been known that local paralysis, and that too of a very indomitable nature, is a common effect of what is called in hot climates, especially India, "*a stroke of the land-wind*." Thus a soldier or sailor falls asleep, with some part of the body exposed to the night or land-breeze charged with miasmata from a jungly or marshy district;—and he awakes with the part completely paralytic, never more perhaps to be capable of sense or motion. This is a fact of frequent occurrence, and is strongly confirmative of our author's views.

"Apparently as a substitute for, or modification of, apoplexy or coma, however obscure the exact cause may be in either case, the first attack of an intermittent is sometimes a numb-

* Vide Journal of Foreign Medicine, vol. ii. p. 189.

ness, or a more perfect paralysis, varying in its extent as well as its severity, so as to affect only a few muscles, in different parts, or else to produce an absolute hemiplegia; which, however, may also be slight as well as complete, or may consist in a numbness or loss of feeling to that extent, without depriving the patient of his command over the muscles. Should the truth of such a cause for palsy be denied on the ground that we cannot explain its action, it must be recollected that it is no more a mystery than the production of apoplexy in the same cases; while the possibility is confirmed by the numerous instances of the same nature which occur, limited to single, and sometimes very small nerves, and either original, or succeeding to painful conditions of those. Every thing indeed tends to show, that if the diseases produced by malaria are not, purely, and all, mere affections of the nervous system, the principal action of this poison is on that system, and the greater proportion of the disorders which are caused by it, disorders of the nerves. Whether the paraplegia so often occurring from exposure to cold, and especially among soldiers in bivouacs, is sometimes, or ever, a disorder of this nature, is a question that I cannot answer from such evidence as I have been able to procure, however this may be suspected in some cases." 292.

If these paralytic affections sometimes usher in a new intermittent disease, being, like coma, a substitute for the cold stage, so has our author seen them occur in the chronic form, and both under circumstances that could admit of no doubt. Thus, in a situation exposed to malaria, and never free from its diseases, in one or other form, a whole family, with the exception of two members, had ague, while these two were attacked with a paralytic affection suddenly—one in the leg and thigh—the other in the arm. In both these individuals, the paralytic affections as suddenly disappeared on the evolution of a regular quotidian ague. The practical error here is the same as in the simulated apoplexy—"the imagining a *flow of blood to the head*—and palsy to be treated by bleeding and evacuations." The result, our author observes, is, in severe attacks, to render that permanent which would only have been temporary, had the doctor not interfered, or had proper means been employed! Of such cases, he says he could state a great number from his own observation. The previous history of the patient, his diseases, his residence, and his treatment, left no doubt in his mind. Dr. M. mentions a few cases from the practice of others, stating the mere facts, and leaving it for the reader to draw his own conclusions.

Two sisters in one family, about the age of 30, were strongly marked with that complexion and physiognomy attendant on splenic disease, and were subject to those strange and anomalous symptoms which spring from chronic intermittents. They had spent a large portion of their time in one of the most pernicious districts of England, and the frequent occurrence

of "spasms" led to bleeding in both cases. This was followed by more nervous symptoms, and led, of course, to more bleeding and purging. "The result, in one of these patients, was hemiplegia, and in the other paraplegia—and further bleeding being resorted to for these disorders, both of them died."

The other case was that of an officer, who is supposed to have had an intermittent fever at some previous epoch. "An inexplicable palsy of one limb was here the first occurrence, and, in a man of a constitution and time of life when the usual vulgar cause could not be suspected. Blood-letting was followed by palsy of the other leg; and, on repeating it successively, both arms, one after the other, became similarly affected, so that the patient at length became and remained almost an immoveable carcase." The final issue of this melancholy case is not yet known. Cases are quoted from Keratry and Etmulla bearing upon this point, and then the following is introduced, not very flattering to the "healing art."

"In this example, an officer, a young man, who had suffered from the remittent fever in Spain, was suddenly seized on an English parade with a fit, or what is commonly called such, which was considered as apoplexy; being in reality a return of his intermittent. Being placed under the usual discipline, he was rendered partially paralytic, and at length, under two years of the general routine, became the mere shadow of a man, while previously most robust; losing also, with his strength, the better part of his intellect. Determined at length to join his regiment in the West Indies, he embarked in a transport, where, from there being no surgeon, all medical practices were suspended; from which moment he began to recover, and concluding just what I have here concluded, was in a few months restored to perfect health." 298.

This consequence of the malarious impression (paralysis) is generally admitted by those continental writers who have practised in unhealthy localities, but they have overlooked the share which bleeding and other evacuations may have had in the production or aggravation of the paralytic affection. Dr. M. assures us that his own experience on this point is wide and ample—and that it is far too precise to admit him to surrender his own judgment to the authority of others.

"Of partial palsies in the face, and of more general ones in the legs and in the arms, traced by the patients to cold, and, under my own views, appertaining to intermittent, I have known many instances rendered complete or incurable by blood-letting, when, from my own experience in similar ones, I have reason to believe that they would have passed away had the physician not interfered." 300.

Dr. M. takes occasion here to criticise pretty sharply some recent writers on palsy, for not even noticing, as one of its causes, the impression of malaria, or its consequence intermittent.

"And when I recur to a long series of observation, much more on the practice of

others, of course, than in my own, I find such a mass of cases where it was to be often proved, very often suspected, that the paralytic affections arose from this very cause, that I am compelled to conclude that, in the first place, the cause in question is a very general cause of palsy; and, secondly, that the error of practice arising out of a wrong theory and the common one, is the source of the far greater number of incurable palsies daily met with in society; the increase of which also has been notoriously great for some time past, while it bids fair to proceed in augmentation, as the diseases of malaria, from whatever cause arising, are themselves increasing, and as the improper practice to which I have alluded becomes also daily more prevalent." 302.

Besides these more sudden and palpable paralytic affections attendant on masked or open ague, there are others of a more gradual nature, which it is necessary to point out. These, perhaps, will be best understood by the statement of a case. This was an instance of a relapsing or chronic quotidian, where no previous local affection had existed. During the relapses in question, which generally lasted six or eight weeks, there came on gradually a feeling of weakness in one leg and foot, which increased so much during the disorder, that the patient could hardly put that foot to the ground.

"And although there was no pain or neuralgia, it was easy to trace with the finger the course of the fibular nerve from the middle of the leg into the foot; as the slightest passage of the finger over it was attended by the well known tingling sensation produced by a pressed nerve; while a stronger pressure where it is nearest the surface, gave the equally well known shock produced by striking the elbow, in another superficial nerve. It was obvious that the muscles chiefly affected in this case, were those to which this nerve principally belonged, and therefore that it was in a diseased state; that derangement appearing to consist in a diminution of its energy or power, added to an increased or morbid sensibility." 303.

The analogy of this to the proper neuralgia is, Dr. M. thinks, evident; and it must, in his mind, be considered as a modified degree of this malady. In subsequent relapses, the affection of the nerve was exasperated, and, ultimately, the ulnar nerve of each arm became similarly affected, with the same inability to extend the arms, without immediately feeling the tingling, as of a compressed nerve, along the whole course, from the arm-pit to the fingers. Dr. M. thinks that this affection of the nerve, whatever its true nature, must have been strictly local, or what might be termed anatomical—that is, appreciable by dissection. In the case now related, the nerves of the arms recovered, but those of the legs remained disordered for many years afterwards.

Dr. M. proceeds to quote cases from other writers, which, whether designed or not, support the doctrine which he is advocating respecting the connexion between palsy and intermittent. Thus, Sauvages quotes a case

from Chaptal, under the very term *tertiana hemiplegica*, which Dr. M. thinks might have opened his eyes to the connexion in question; but it did not. In another case, quoted by the same learned nosologist, the paralytic affection came on every day, and disappeared with the accession of the proper quotidian.

"Palsy in the form of paraplegia, of a periodical and quotidian intermitting character, is also described by Torti, from Chaptal. Where the same writer, from the same authority, quotes a similar periodical hemiplegia absolutely perfect, while it was quotidian and intermitting, lasting also for ten hours, he remarks that it was always increased by purging as well as by blood-letting, and that on changing the practice, it was cured by bark in nine days. This particular case is of value, as a warning to practitioners; and, from the nature of the attending and preceding symptoms, perhaps of somewhat more value than common." 310.

A case from Morgagni is still more remarkable. In this, one side was permanently paralytic, while the other was attacked every evening with a palsy, which disappeared in the morning—the patient, after seven or eight such fits, dying of peripneumony. Various irregular cases of this kind, where the paralysis was attended with convulsions, are noted by the same author. Neither Morgagni, Sauvages, nor any of the writers on palsy, however, appear to have suspected a connexion between intermittent and that disease. The connexion of apoplexy with intermittent has been largely noticed by Ramazini, who describes the apoplexy as occurring at all periods of the disease, as well as at its commencement. This connexion was also known to Morton, and its nature must have been appreciated, when he prescribes bark for the cure of the apoplexy, as well as the ague. Theon de la Chaume describes an epidemic tertian, accompanied by apoplexy, as prevailing at Ajaccio, in two different years, 1773-8. The same has been often seen in Bresse, the most pestiferous part of the Lyonnais.

"It is a noted fact, that it is the effect of chronic or habitual intermittents to injure or destroy the intellectual faculties, as I had occasion to point out already when treating of remittents. This is notorious in the countries where these disorders prevail, and very remarkably, as I formerly said, in the Maremma of Tuscany, where even absolute idiotism from this cause is common; the fact being marked, even to cursory travellers, by that apathy, listlessness, or indolence of mind, gradually approaching to fatuity, which I formerly described. If the cause be obscure, it cannot well be more obscure than every thing else which belongs to the action of malaria; while the fact of the universal influence of this poison on the nervous system, local as well as general, leaves no difficulty, at least in believing that it may produce such effects on the mind." 322

But ague, for a long period of its existence, only affects the mind with irritability, or in-

creased sensibility, as evinced by peevishness, exaggerated views of evil, increased sensibility to bodily suffering—to say nothing of nervous sensations beyond number. In process of time, however, a train of opposite effects come to prevail. The mind becomes, as it were, torpid, as evinced by listlessness, and submission to present evils, with scarcely a wish to escape them. This is a striking feature in the inhabitants of pestiferous countries. Dr. M. relates some curious instances where, in people who had laboured under this disease, the organs of sense lost their aptitude for pleasurable sensations, “their complaints being, that beautiful objects, such as pictures, natural scenery, &c., which, before that, or when in health, had been most pleasurable or engaging, seemed to make no impression at all on the sense.”

“From such patients I have received also the same complaints and statements, with respect to the other usual causes of simple pleasurable feelings; and very particularly from those who, as musicians, were accustomed to delight in music, not less from science than feeling; those being, that they seemed to suffer under a positive insensibility as to what used to be a source of the most refined delight, although labouring under no affection of the temper, nor any of those sensations commonly called hypochondriacal. And thus have others complained that the most grateful odours had ceased to give pleasure, that the scent of a rose was not only powerless, but produced absolute pain by reminding them of what it once was; while every attempt to revive the former associations connected with this and other similar objects of delight, was unavailing.” 325.

This *mutatis mutandis*, Dr. M. thinks, is precisely the progress in those cases where single nerves are affected, instead of the whole cerebral system. “In the neuralgia, the first action of the cause is an increase of sensibility, reaching to the highest imaginable degree of pain;” but the progress of this is to palsy—“or the excessive sensibility is succeeded by a diminished one,” as if the sensibility were exhausted by the previous over-excitement.

After many ingenious and interesting observations on *periodical* mania, vomiting, hysteria, palpitation, and other irregular modes or forms of intermittent, our author comes to the occasional connexion of rheumatism with malarious diseases. Dr. M. without attempting to unravel the difficult pathology of this disease, trusts that he will be able to prove that there are cases which belong to intermittent—“cases bearing an analogy to certain modes of neuralgia, and possibly differing from it, by the affections being seated in the numerous and minute ramifications of a nerve, instead of attacking a trunk, or a leading branch.”

“The most simple case of all, while it is one that ought never to be mistaken, is that where a rheumatic pain in some particular muscle is strictly periodical, returning and

ceasing in regular paroxysms. In such cases, the part affected may sometimes be exceedingly limited, occupying only a few fibres of a muscle, though, even then, the pain is often severe; while in others, the extent may be very considerable. Thus even the whole body may suffer under it; or rather there may be so many different muscles affected, in some place or other, that scarcely any movement can be made in which some one or more of the disordered portions is not brought into action; conveying thus, to the patient, the feelings as of an universal rheumatism.” 369.

Such a periodical recurrence, he observes, might satisfy a practitioner respecting the true nature of the disease; but it will often be attended with other symptoms, explanatory of its cause. Thus, it will be found to occur in persons who have been previously affected by intermittents, forming in itself a period of relapse, and a substitute for the more common modes of chronic disease. In other cases, the rheumatic pains will alternate with some of the other marked symptoms belonging to this disease:—or it may cease on the appearance of the common symptoms of intermittent.

Dr. M. tells us that there is a certain *physiognomy of the cold stage*, however wanting the actual feeling of cold may be, which is never absent at some period or other of this, and of all other malarious diseases, and which has, on endless occasions, enabled him to pronounce, from the first sight of the patient, on the nature of the disorder to which he has been summoned, with the assurance of its mysterious nature by the medical attendant. The power of distinguishing this physiognomy, however, requires the *TACTUS ERUDITUS* of the experienced practitioner.

The kind of rheumatism here alluded to, as connected with intermittent, will, of course, be generally of the chronic kind, and our author does not attempt to say what proportion they bear to the common rheumatism, dependent on other causes; but he thinks it probable that they form a considerable proportion of what pass under the name of chronic rheumatism.

“The more serious question remains; whether that which is esteemed acute rheumatism, a disorder too well defined and too familiar to require description here, may be a mode of intermittent. I do not mean to suggest at present, that every acute rheumatism is a disorder belonging to this class of diseases, or that, as in the chronic variety, there are not cases which are independent disorders, or affections generically different, although it seems to me, that even this is a question far from decided the other way. The question at present is, whether there are not acute rheumatisms of the most regular form, which are truly modes of the quotidian intermittent, or of the remittent, possibly, originating in the same causes: and if it shall be decided that this is the fact, and that there is also an acute rheumatism generically different, then we shall probably be able to explain the causes of the contests so

long maintained respecting the use of bark in this disease.

"The facts which would seem to prove this opinion are chiefly these. There is a periodical exacerbation, if there is not always an absolute remission of the pains; and the duration of the disease is very analogous to that of a remittent, or of one period of an intermittent. The causes correspond, if they are not identical, while the remedy is often the same; since, after all that has been disputed, there is no doubt that many cases are cured by bark, and that blood-letting is not only often ineffectual, but pernicious; its action altogether, being, in fact, very similar to that which it exerts on remitting and severe intermittent fevers." 375.

Thus, while in acute rheumatism, the misapplication or abuse of blood-letting often produces the chronic disease; so, a similar practice frequently induces the chronic state of intermittent—or converts an acute and terminable case into a durable one.

"It is not impossible also that the termination of the pains of acute rheumatism, succeeded by affection of the brain, and so often producing death, may be an analogy to what happens in other cases of intermittent diseases, where one local affection is exchanged for another, or disappears, to be replaced by an augmentation of the general fever." 376.

We are so far outstripping our limits that we must pass over our author's investigation of those cases of pleuritic and catarrhal affections, angina, hepatitis, gastric and splenic disorders, ophthalmia, &c., which occasionally assume a remittent form, and depend on a malarious cause. Every man must have repeatedly seen rheumatism of the intercostal muscles mistaken for pleurisy, and venesection injuriously, or at least injudiciously resorted to for its cure.

"If I have seen constitutions utterly ruined by a perseverance in this wrong practice, if I have seen patients condemned to believe themselves labouring under consumption in these cases, with all the expensive and vexatious consequences that follow such an error, there are doubtless many physicians to whom the same facts have occurred." 380.

Yet it is by no means difficult to distinguish between the internal and external complaint, even without the aid of percussion or auscultation. The following case is interesting, and we shall introduce it here.

"The patient was a young man in the higher rank of life, and the pain in the side was termed pleurisy, though no cough was present, and very little fever; so little, that not even confinement to bed was necessary. Blood-letting was resorted to, very actively, and was followed by increase of the pains; and, not to prolong a tedious history, these pains continued or returned occasionally, during nearly a whole year, while, during all that time, this remedy was repeated, often, many times in a week. If it was plain that this, by merely negative reasoning, must have been a rheumatic disorder, there was even

much plainer evidence, in the periodical returns of the pain, after some weeks, that it was also the intermitting disease; while the physiognomy and appearance marked, once in every day, a decided cold stage. Still further, after about five months, there came on a pain in the shin bone of one leg, regularly periodical, and lasting five hours; during which, the rheumatic pains among the ribs diminished or ceased, yet without leading the physicians to a correct judgment of this case, as it ought to have done; being a true neuralgia, interchanging partially with the original intermitting rheumatism." 382.

This case was considered to be a wonderful and mysterious one, and it was proposed to make an incision through the periosteum, on a supposition that the bone was diseased. The patient's health was greatly reduced, and he did not recover strength for many years, when the disease terminated in a regular ague that has harassed him ever since in a chronic form!

Among other intermittent rheumatisms, Dr. M. notices lumbago, which is, at least sometimes, a modification of the class now under discussion. One case is mentioned where, what was called a regular lumbago, and treated as such, "was suddenly and spontaneously removed, and immediately succeeded by the common neuralgia of the face." A similar case is recorded by Dr. Pearson. Dr. M. considers those pains situated in non-muscular parts, as improperly denominated rheumatism. They belong to the neuralgia, as those of the face and head.

"There is something singularly periodical in the attacks of a catarrh which often comes on in summer, and, as it would appear, most commonly from exposure, not simply to heat it would generally seem, but to heat where vegetation is present. This well known disorder is produced by hot-houses or green-houses; and, in the public estimation, it is particularly caused by hay-fields. Hence the term hay-fever, lately become fashionable." 394.

Dr. M. has not much experience of this disorder, but he knows that it is one which is aggravated by the remedies which aggravate intermittents—namely, blood-letting and other evacuations. Dr. Bostock, who appears to have suffered from this complaint in person, has given a full account of it.

We must pass over a great many complaints of a periodical character, and which are not improperly classed among those dependent on a malarious origin, in order that we may dedicate a few pages to therapeutics.

TREATMENT OF INTERMITTENTS.

Dr. M. does not pretend, of course, to offer any new cure for this class of complaints; but he has dedicated a large space to comments on those modes of treatment which have been employed by others. He observes, that the remedies which will cure a recent intermittent, will be much less efficacious in one of long duration or relapse—but he does not conceive that any distinction is necessary as to

the types of intermittent maladies—"since, in all of these, the remedies are the same," requiring only such modifications as the obvious circumstances of the case may indicate.

The simplest remedies are those which act on or through the mind, and—"their number is far greater than I choose here to record." Their action is undoubted—but they are best suited to new attacks of new diseases. There is no evidence of their efficacy in remittents, and it is curious that remedies of this class have been more successful in stopping tertian than quotidian agues. Without *faith* in their power, they are nugatory—and this explains the rationale of their operation in most cases, in conjunction with disgust, fear, and other strong mental impressions. Under this head (Dr. M. thinks) must be classed "a vast catalogue of internal medicines of the most discordant properties or of no properties at all." He is of opinion that bark itself sometimes acts in this way—namely, by *confidence*.—Spiders' webs may act by disgust or horror, and so on.

The next class of remedies includes those which make a powerful impression on the system, and especially on the stomach, immediately before or soon after the commencement of the fit—by which the paroxysm is prevented or abridged. Alcohol, opium, spices, are the basis of this class. Those medicines which we term tonic, as bark and arsenic, are next noticed by our author. He cannot conceive why they should have the term *tonic* applied to them, "so unphilosophically lax are the ideas attached to that term." After some general observations on the management of the three stages of the paroxysms, Dr. M. comes to make some comments on the administration of particular remedies, beginning with the bark. Between the foreign practice of giving as large a quantity of bark as can be taken, within one, two, or more intervals, and then ceasing for a time, and the English method of giving the medicine in less quantities, "persevering without limit," Dr. M. finds it difficult to decide, as to the comparative advantages.

"But while I must return to this question immediately, one remark seems well founded, however, often neglected; and it is, that the perseverance in bark beyond a few days is nearly useless; while, if it has been said that whenever it offends the stomach, it produces no good effect, this is contradicted, as I shall presently show, by other physicians. And further, it seems often true, while even less known, that where a large dose is inefficacious, a small one is often useful; or, in reality, that ten or fifteen grains will sometimes produce a better effect than a drachm. Of the various preparations, the now common combination of kina, its sulphate, seems the only one which deserves a preference to the bark in substance, while it will probably prove to be in every instance preferable." 445.

Dr. M. next gives the opinions of various authors as to bark; but these we need not enumerate, nor even notice. We shall stop for a few minutes, however, on the subject of

arsenic, a remedy that "has been lauded beyond its merits, and often also condemned and shunned, rather from the fear excited by its name than any thing else." The following sentiments coincide very nearly with our own experience.

"I have little, therefore, but my own experience to judge from; and this is, in the first place, that it is less efficacious than bark in diseases of a highly febrile character and of long duration; or that as the intermittent approaches nearer to the remittent, arsenic becomes an uncertain remedy, and that in the very chronic disease it appears to me to possess no power at all; though I know not, that, in these latter cases, it is more nugatory than any other remedy. In a new and a very simple intermittent, and in the tertian particularly, it seems to offer a more rapid remedy than bark, while its superior convenience is manifest.

"But if I were to compare it with bark in those cases where the disease puts on the anomalous symptoms or characters which I have described, I should often judge it a more effectual remedy than that; and although my own experience is far from sufficient to decide this point, I have also found it the best medicine in all the cases of the most purely local affections, or in the neuralgia; not but what it fails much too often, even in these, and particularly where they are of long standing." 452.

Dr. M. objects to the form in common use, Fowler's solution, and assures us that the common white arsenic, in powder, has succeeded, when the solution has failed. The sixteenth part of a grain is that which Dr. M. has employed, repeated three or four times a day, rubbed down with lump sugar.

"With respect to the superiority of arsenic in substance to its neutral salt, I may quote the experience of a friend, who, residing in a district where *tic douloureux* is extremely common, and where the solution seldom succeeded, now reports to me that he finds the powder almost infallible; giving it without the least inconvenience to the extent of 1-12th of a grain for a dose, and finding that its utmost limit is 1-8th, which can seldom however be endured, though having administered 1-6th without further evil consequences than gripings." 453.

This information is important, if true; but the apprehension of mistakes in the shops will prevent many from giving the common arsenic a fair trial.

"As this remedy is held to be attended with danger, and also with ultimate bad consequences, I must here bestow a few words on that subject. When given in excess, short of its properly poisonous effects, the symptoms are various, but the following have been observed; headach, sweating, tumours, nausea, vomiting, griping pains, with spasms of the lower extremities, and, sometimes, affections of the urinary passages; more frequently a red eruption on the skin, with swellings about the eyes and other parts, resembling that produced in what is called a

surfeit, from eating muscles, and, in particular persons, many other substances. I must also remark, that, as in this latter case, there are individuals who thus suffer from it, even in the minutest doses, and that the eruption of the skin appears to be one of the most common effects, generally however limited to the face and the breast. That effect, together with slight nausea, are the ordinary and commonly sole ones, unless the dose be excessive." 454.

Dr. M. has never known any ulterior or permanent ill consequences arise from the use of arsenic. "They are all easily removed by brandy, as is the common surfeit, or by opium; and if not, they cease of themselves in a few hours."

In some constitutions, and after a few days' exhibition of the arsenic, the pulse becomes quickened, and the skin hot and dry; while there is that peculiar feeling of languor and debility that is known to result from mercury. Flatulence and sense of distention very often attend this condition. In such cases it is prudent to desist, though our author has not seen any bad consequences result further than the above. He does not believe that paralysis has ever been produced by this medicine.

On the cold bath, mercury, and purgatives, Dr. M. makes some cursory remarks, which we pass over. They are, generally speaking, condemnatory—excepting when the above means are used with great caution. Against purgation in particular, Dr. M. entertains considerable aversion.

"But in the chronic varieties, and in these, in proportion to their duration and the debility of the patient, while it is not less indispensable to maintain the bowels in a natural state, actual purging is almost invariably pernicious, unless applied to for accidental and specific purposes, of which every physician can judge. The common, the very common effect of it, is to cause relapses or returns of a disorder that has ceased, and thus to render chronic a case that might have terminated; and when what are called courses of purging medicines have been resorted to, whether from any theory of their utility, or from a mistaken view of the symptoms and their cause, it is not unusual to see produced, the most inveterate cases of chronic intermittent, and very generally also to find them under some anomalous form that might never else have occurred." 460.

Of the truth of these observations we have seen some very curious and melancholy illustrations during the last eighteen months, a period remarkable for the prevalence of intermittent diseases under various forms. The same observations, Dr. M. adds, apply to all the cases of neuralgia under its endless modifications. Speaking of the pernicious effects of active purgation now employed in all disorders, chronic as well as acute, Dr. M. makes the following sarcastic reflection.

"If the united ignorance and presumption of self-empirics could ever find an excuse, they might indeed claim it in this case; when

they see practitioners of high fame, if notoriety be fame, following similar universal systems of cure, applying salts, or 'the blue pill' to every disorder or symptom in the nosology, without inquiry; and thus, while saving themselves all the trouble of thinking, rendering physic an art which may be practised by any one, without previous study or present observation; since the Alkahest does all.

"If it is strong language, it is scarcely exaggerated to say, that this universal tampering with salts and calomel is one of the greatest misfortunes which fashion and folly united ever entailed on England; while it is even matter for satirists, to find that a course of the waters of Cheltenham or Leamington, at once powerful and precarious, a system of active practice which can never be neutral, and which if not useful must be pernicious, is held a fashionable necessity; a mode of passing time, equivalent to any other expensive system of idleness on which society has stamped a certain reputation. But this is a small portion indeed of the evil, when we review the whole of this most extraordinary fashion, in a manner however in which I cannot undertake to examine it here. Whether the old Roman practice of emetics was more or less pernicious than that of the dinner-pills or the morning salts, it is not here my business to inquire; but he is widely mistaken who imagines that the injury produced by frequent or habitual gluttony is to be repaired by the further injury resulting from frequent or habitual purgatives." 464.

Speaking of *physic*—(whether as a *drug*, a science, or a trade, we are not quite certain)—Dr. M. unequivocally accuses it of being the principal cause of our diseases!!

"Let any family or any individual thus educated on purgatives, (provided indeed that the health is not utterly ruined,) take but courage enough to destroy the medicine-chest and *lock the door against the physician*, and they will soon find which was the cause and which the consequence." 464.

Dr. M. however, admits that there are some other causes of diseases besides *physic*—for example, malaria, idleness, luxury, peculiar modes of life.

"I must also (says he) notice, as perhaps the greatest and most general cause of nervous affections, particularly in men, a *state of things which seems to have been very much overlooked by those physicians who have speculated on this subject*. I allude to the great increase of mental employment, or of study and business or occupation, requiring mental rather than bodily exertion, connected also with that which frequently becomes a species of disease in itself, EDUCATION, or study and talents, and the latter habitually exerted—added also to confinement and all its collateral evils, and further, too often accompanied by that anxiety, with its occasional attendants or sequels, disappointment, which is the produce of the especial ambition, either as to wealth, or honours, or fame, which denotes the present times." 467.

Still, all these are inadequate, Dr. M. thinks, to the production of that wide prevalence of dyspepsia which characterizes the present race of English. Purgation, he conceives is the other grand item in the etiology of bilious, nervous, and dyspeptic disorders.

From what has preceded, we need hardly remark that Dr. M. is a decided enemy to venesection in intermittents, except under the most rigid restrictions. In the hot fit it is rarely necessary—in the intermission it is dangerous—and, we should imagine that Dr. Mackintosh's practice of bleeding in the *cold stage* must have given our worthy author an ague, considering how very susceptible he is to every morbid impression!

On the other hand, as might be expected, Dr. M. is a steady advocate for good wine and good living generally, in the class of diseases now under review. The partiality, indeed, with which Dr. M. seems to view good cheer, would induce us to believe that he has been so fortunate as to partake of the pleasures of the table, in those situations where the "feast of reason and the flow of soul" add not a little to the enjoyment of the "good creatures" of this world. We are by no means inclined to criticise his dietetics, however, where chronic intermittent diseases are to be managed. Depletion and starvation, in such cases, would be highly deleterious. On what principle, indeed, could we prescribe bark and arsenic, in conjunction with drastic purgatives, venesection, and low diet? The disease is one of debility and irritability—and in these cases, tonics, stimulants, and generous food and drink are called for.

The last subject which we shall notice is "change of air," the efficacy of which is undoubted in most chronic diseases particularly. It is not merely the removal from a bad air to a good one that is productive of so much benefit. The operation, in this case, seems to be that of breaking the habit of the disease—as a chronic intermittent appears very often to be a mere habit.

"If this be the case, a difference in the quality of the air breathed, which is what the popular phrase would signify, is not in itself the remedy; though respecting this we really are not in a capacity to argue at present, since it is most certain that the atmosphere, in different states or places, produces effects on the body, of which our present chemistry does not enable us to investigate the causes. The lungs, or the organs here concerned, to whatever extent, are in reality chemical agents superior in discernment or power to those of our laboratories; or the involuntary and unconscious animal is that chemist which the reasoning one is not; carrying on operations which he can neither imitate nor discover, and detecting substances what he cannot find." 492.

Here we must conclude this article—an article which embraces half a volume, and on which we have expended more labour than our readers, or perhaps the author will give us credit for. Nothing but a strong conviction

that the work before us contains a multitude of valuable gems, which readers in general will not take the trouble to pick out, could have induced us to bestow so much labour on a review, at this season of the year, (June 1828,) when the town is so full of men and malaria, that our literary labours only *commence* when "church-yard yawn," and all our other brethren (accoucheurs excepted) are fast asleep! In rendering Dr. Macculloch's work more accessible to the profession, by diffusing it in a portable and perusable shape, we are conscious that we are doing the state some service—and the author no injury. We have several other articles from the same work in reserve.

From the Medico-Chirurgical Review.

MEMOIR ON VISCERAL NEURALGIA.

By P. JOLLY, M. D.

PART FIRST.

Much has been written on that class of painful maladies, the neuralgiæ of the nerves of relation—and, under the class *neuroses*, many diseases, or rather symptoms, connected with or dependent on visceral neuralgia, have been accurately described, as for example, angina pectoris, spasmodic asthma, whooping-cough, &c. Few or no investigations, however, have been made into the state of the visceral nerves themselves, on which the disorders of function in these viscera, so often depend. The general sentiment, indeed, appears to be that, in the *neuroses*, there is a total absence of appreciable change of structure, or, in other words, of physical lesion, in the parts affected. Our author thinks, on the contrary, that there are very few of the *neuroses*, whether external or internal, in which some lesion might not be detected either in one of the principal nerves, their divisions, their anastomoses, or in one of the great nervous centres. The researches of Bichat, Beclard, Swan, and others, on the local affections of nerves, justifies him in this opinion, as far as the nerves of relation are concerned. These researches have reduced the number of vague terms in medicine, and augmented the number of those which have some anatomical and physiological meaning. But we have not been so successful in our researches respecting the visceral or ganglionic nerves. All there is darkness; and we have hardly ventured to apply the term *neuralgia*—probably because the idea of great pain is associated with the word; whereas, the splanchnic nerves, having specific kinds of sensibility, may suffer severely in their own way, and greatly disorder the functions of the organs on which they are distributed, without any sensible pain, in the common acceptation of the word.

M. Jolly employs the term neuralgia, then, to designate every lesion, physical or vital, direct or indirect, of a nerve, unaccompanied by external signs of inflammation—assuming, for the most part, a periodical character—and

disturbing, more or less, the functions of the corresponding viscera. He reserves the term "neuroses," on the other hand, for all those nervous affections where no local cause can be traced in the nerve, but merely disorder of function in the organ. Our author properly observes that, between the cerebro-spinal nerves (the nerves of relation with the outward world) and the ganglionic nerves arising from the solar plexus, there is an intermediate class (the phrenic and eighth pair) which partake of the characters and functions of both the others—and whose disorders are modified accordingly. It is with this class of nerves that our author commences his history of the neuralgia of the nutritive life—or the function of digestion and assimilation.

PHRENIC NEURALGIAE.

Clinical Characters.—The phrenic neuralgia, like most nervous disorders, are generally intermittent. They manifest themselves by more or less of pain, accompanied by a sense of constriction about the epigastrium or in the back—by hiccup, often attended with eructations, vomiting, and other symptoms denoting a spasmodic affection of the diaphragm. They may also give rise to disorder, more or less marked, of the respiratory apparatus, and thus simulate all the phenomena of asthma. They are usually unattended with pyrexia; but, in some cases, they are accompanied by all the general symptoms of intermittent fever, simple or malignant.

Examples.

Case 1. In the 5th volume of the Medical Journal of Vandermonde, M. Hazou has published a case of painful intermittent hiccup, which illustrates this subject. A lady, 30 years of age, received some melancholy news while menstruating, and by which the catamenial discharge was stopped. On this suppression, there supervened a most distressing hiccup, which lasted with great violence for 36 hours. There was then an intermission of 24 hours, when the hiccup returned with the same degree of intensity, and lasted the same number of hours. The complaint went on in this manner, the periods of attack and intermission as above, for several weeks, by which the patient was nearly brought to the grave. She was cured at last, by a course of strong purgative medicine.

Case 2. This case is published by M. Bigot, in the 92d number of the "Clinique des Hôpitaux." Madeline Rabouin, aged 24 years, had been subject to occasional attacks of hiccup for five years, which generally lasted a few hours, and then ceased. During the last six months, the hiccup has seldom appeared, but it has been superseded by attacks of aphonia so complete as to render her incapable, for the time, of uttering a single sound. M. Bigot was consulted, and found that this young woman was not regular in her catamenia, and that she complained of pain in the back part of her head. She was directed to apply 15 leeches to the anus, and to encourage the

discharge. By this remedy the aphonia was removed; but it was replaced by the periodical attacks of hiccup, which were infinitely more distressing than the aphonia. A tartar-emetic plaster was applied to the epigastrium, which brought out a plentiful crop of pustules, and these were kept in a state of irritation and discharge by fresh applications of the antimonial. This put an end to the singultus for 12 days, when it returned. A second plaster completely dissipated the complaint.

Case 3. (Hospital Practice.) Miss Mason, aged 27 years, of delicate constitution, and of great susceptibility of nerve, had been subject to indigestion since the age of 20, but was regular in her menstrual evacuations. Seven months prior to the date of report, she was, without any apparent cause, seized with a rigour, which lasted several hours, accompanied by loud and quickly repeated discharges of flatus from the stomach. These eructations continued, with more or less intensity from that period, the patient being seldom more than an hour without them. In this state she presented herself to M. Dupuytren, at the Hôtel Dieu, under a severe paroxysm, the head being bent forward on the chest, while the sterno-cleido, pectoral, and several other muscles, as well as the diaphragm, were constantly agitated by convulsive movements. The eructations were unattended with pain; but when the paroxysms lasted any considerable time, she appeared to be threatened with suffocation. She was greatly emaciated, but preserved her appetite, and had some sleep at night. M. Dupuytren resorted at once to a powerful remedy—the actual cautery. Two irons, of two inches in diameter, and of a white heat, were held successively, close to the pit of the stomach, till the integuments became of a deep red colour. The cries of the patient, who was firmly held by assistants, were dreadful, and she sunk, at last, into a kind of stupor, and all spasmodic action ceased. On recovering, she was conveyed home, and, in the evening, she was at her usual occupations, and in good spirits. For some days after this, she had but very slight attacks, and when the report closed she was nearly well.

Case 4. (Hôtel Dieu.—M. Dupuytren.) This was a female also, of irregular menstruation, who had been harassed for two years with a most distressing singultus, accompanied by spasmodic action of the pectoral and cervical muscles. M. Dupuytren employed the actual cautery in the same manner as in the preceding case. The skin was disorganized, but the singultus was stopped as by a charm. Fifteen days afterwards she returned to the hospital, and reported that the hiccup was now so mild that it caused her very little inconvenience.

Several authors have related cases of intermittent hiccup, accompanied with pain, more or less acute, in those organs, under the influence of the phrenic nerve, and which only gave way to large doses of cinchona. These phrenic neuralgiae, like all others of that class,

may be accompanied by fever—and are then, in fact, intermittents. We have little doubt that they arise from the same causes that produce agues.

Anatomical Characters.—These are very little known, as the subject has not been prosecuted to any extent. Our author has little doubt that a physical change in the nerve or its neurilema, (probably of an inflammatory character) takes place. We find an instance recorded by the elder Berard, in the case of an individual who had presented all the symptoms of asthma. On dissection, no other physical change could be discovered than a small tubercle, the size of a pea, of a black colour, and extremely hard, which had completely interrupted the phrenic nerve on one side. It is certain, however, that neuralgia exists entirely independent of local lesion, and which appears to result from, and to be kept up by a vicious habit of the vital powers or properties of the nerve itself. Such would appear to be the case in the two instances related by M. Bigot, from the hospital practice of Dupuytren, and which would, probably, have given way to bark or arsenic, as well as to the actual cautery. Still it must be confessed, that the nerves have been but little examined in the neuroses and neuralgia, and it is, therefore, to be hoped, that future researches into the intimate texture of parts, will detect many lesions now unknown. Till then we must trust to external symptoms.

PNEUMO-GASTRIC NEURALGIA.

Clinical Characters.—These neuralgiae are infinitely more common than is suspected. It is to these, in fact, that we are to attribute the greater number of periodical or spasmodic asthmas, dyspnoeas, periodical coughs, hooping coughs, and what have been called “nervous vomitings,” by different writers. It is in this class we must place the “tussis suffocativa,” quotidian, tertian, &c. of Galleazzi, Ridley, Home, Stork, and others. In this class must be located the periodical vomitings with epigastric pain, cited by Heister, and many other authors.

Those hemicrania that are distressing and obstinate are probably referrible to this class of neuralgia, although *sympathetic* in respect to the immediate nervous seat of the pain. We shall select and condense a few cases illustrative of this class of visceral neuralgia.

Case 5. (M. Dumeril—Maison Royale.) A female cook, aged about 30 years, had been subject, for several years, to hemicrania, which attacked her many times in the month. They were ushered in by chilliness, succeeded by reaction, agitation, sense of strangulation, and, lastly, by sickness and vomiting. She was cured by anodynes and evacuants, followed by tonics.

Case 6.—(Same Establishment.) A female, aged 39 years, had been harassed for some time with paroxysms of cough resembling hooping-cough. It generally came on every evening, especially after eating. To the paroxysms of coughing was added vomiting,

with dreadful straining and convulsive agitations. She had been treated by leechings, purgings, diluents, and other means, when having entered the Maison Royale, M. Dumeril wisely considered the case as one of nervous periodical affection, and soon cured her by anodynes and tonics.

Case 7. In a former number of the *Bibliothèque Medicale*, M. Jolly had published a case which showed the difficulty of diagnosis, while it tends to corroborate the opinion of M. Fodera, that asthma is often dependent on a certain morbid condition of the brain and nerves. An individual had experienced, during, several years, a train of anomalous symptoms in the vascular and respiratory apparatus, which led his physicians to suspect serious organic disease of the chest. On the least exertion of body or emotion of mind, he was threatened with suffocation, had violent palpitation of the heart, irregularity of the pulse, indigestion, apparent enlargement and pain in the liver. Bleeding and starvation did not mitigate the disease, while it seemed to accelerate general dropsy, of which he died. The most accurate examination after death, did not detect any deviation from healthy structure in the chest; and the only morbid anatomy that was found, consisted in a softening and vascularity about the corpora olivaria, near the origin of the par vagum.

Anatomical Characters.—These, like the other neuralgiae, may leave no cognizable trace of their existence in the nerves affected. This, indeed, is the case ninety-nine times in the hundred. Pathological anatomy, however, is not without examples of physical changes in the pneumo-gastric nerves, corresponding with the symptoms during life. Thus Autenrieth found the par vagum and phrenic inflamed in individuals who had died of spasmodic cough, resisting every kind of treatment. M. Breschet discovered the pneumo-gastric nerves of a yellow colour in people who had died of hooping-cough. Andral has related a remarkable case of asthma where the par vagum was altered in structure. Gendrin, Cruvelhier, and others, have also reported analogous cases.

It is to be remembered, however, that physical lesions in the nerves are rare when compared with disordered function, and this will apply to all other textures of the body as well as to the nerves. We are bound, therefore, to conclude that the physical change is one that takes place as a consequence, in general, of the functional disorder, though that consequence must, in its turn, prove a cause or an exasperation of the disorder.

But what we would wish particularly to impress on the minds of our younger brethren is the utility of attending to these visceral neuralgiae, and especially to the periodical forms which they assume, leading us to trace them to the same general causes which produce the tribe of agues and remittent complaints—namely, miasmal emanations from the earth. It is on this supposition, that we can comprehend the alleviation which a trifling change of

place and air will frequently produce in this class of complaints, while it explains the reason why some people cannot maintain a day's good health in certain localities. An attention to the medical topography of the place may often lead to a knowledge of the cause—and a knowledge of the cause is the surest key not only to prevention but to cure.

PART SECOND.

In his second paper M. Jolly pursues the investigation of a very difficult, but a very important subject. Our author quotes a passage from Bichat, which shows that that illustrious pathologist did not overlook this important class of human afflictions.

"There are," says Bichat, "colics essentially nervous, and which are totally independent of any local affection of the serous, mucous, or muscular coats of the intestines. These colics have their seat evidently in the nerves emanating from the semilunar ganglia, and spread along the whole arterial system of the abdomen. *"They are veritable neuralgiae of the nervous system of the organic life,* although these neuralgiae have nothing in common with tic douloureux, &c."

In this expression Bichat seems to have forgotten that the visceral nerves do not feel in the same manner as the cerebro-spinal nerves, and this difference of sensibility is quite sufficient to account for the greater quantity of pain that attends tic douloureux when affecting the former class of nerves. The affection seems really to be of the same nature in both cases, and only modified by the characters of the two classes of nerves. But, as we shall give a greater extension to this subject, when reviewing that part of Dr. Macculloch's work that treats of NEURALGIA, we shall here confine ourselves to the cases brought forward by M. Jolly. The following passage, however, is deserving of consideration, en passant.

"In the neuralgiae of the trisplanchnic, as in those of the cerebro-spinal nerves, the *pain* is not the only sensible phenomenon. Generally there is an afflux of blood to the tract of the nerves affected, as well as to the adjacent tissues; and as these two phenomena constitute two of the essential characters of inflammation, they may help to account for that febrile reaction which takes place in so many of the intermittent neuralgiae—and may go far to identify the neuralgiae apyrecticae with the neuralgiae febriles."

Every day's experience of the last two years in this country will tend to confirm the above observation. The cause, whatever it may be, or whatever we may call it—marsh miasma, febrile miasma, dolorific miasma—produces in one individual a periodical headach—in another, an ague—in a third, a HEPATALGIA, too often mistaken for HEPATITIS—in a fourth, a GASTRALGIA, treated by leeches, bleeding, blisters, &c. as GASTRITIS. But more of this in another place.

Case 1. *Febrile Neuralgia affecting the trisplanchnic nerves under the tertian form, and*

cured by antiperiodics after an unsuccessful trial of the depletory means.

Mamade D—, aged 30 years, of sanguineous temperament, experienced, after an accouchement, a series of symptoms, apparently of an inflammatory character, and affecting the stomach, liver, kidneys, and uterus. Each attack, in short, resembled gastritis, hepatitis, nephritis, hysteritis, &c. according to the organ invaded, and each attack gave way to the usual depletory and antiphlogistic measures. But the intervals of relief were short and imperfect—and a few days generally sufficed to bring the malady back in some new place. At length, after the patient was reduced to a state of great debility, it was observed that the disorder made its appearance regularly every third day, whatever was the organ selected for its seat. Having arrived at the lowest ebb of weakness, and when depletive measures could no longer be thought of, the patient continued to be harassed with most distressing pains in almost all the viscera supplied by the trisplanchnic nerves. These pains were unequivocally periodical, returning every other day at a fixed hour, generally about eleven o'clock in the forenoon, commencing with a chilliness, headach, and vertigo, then affecting successively the epigastrium, the right hypochondrium, and the right side of the hypogastrium. The pains were accompanied by violent vomiting, and by such painful distention of the abdomen, especially about the region of the liver, that she could scarcely bear the weight of the bed-clothes. This state lasted from twelve to fifteen hours, terminating in a gentle warm perspiration, and being succeeded by an interval of nearly perfect health. In these intervals, there was neither pain nor even tenderness on pressure, in any part of the abdomen—no feverishness—no redness, but a slight whiteness of the tongue. In consultation with Dr. Chabanneau, it was agreed that the disease was a periodical neuralgia of the ganglionic system, and she was directed to take sixteen grains of the sulphate of quinine, with some opium and ether in the next interval. There was no return of the paroxysms till the eleventh day, when the patient thought proper to take a cathartic medicine, which immediately produced a recurrence of the attack. The quinine again stopped them permanently.

Case 2. *Quotidian Intermittent Neuralgia of the Uterus.* By Dr. DUPARQUE.—Madame R. C. aged 28 years, tall and robust, was safely delivered in the beginning of October, 1827. She did not nurse the child, and the catamenia were re-established in six weeks, continuing regular till the month of February, 1828, when they stopped, without any ostensible cause, but again returned, eight days after the expected period, accompanied by extraordinary pains chiefly affecting the right iliac region, shooting into the pelvis, and extending towards the opposite iliac region. These pains were accompanied by a bearing down, resembling that felt in labour. They were acute, lancinating, recurring every three

or four minutes, and forcing the patient to cry out from their violence. They soon induced a degree of delirium and even convulsions. These attacks came on about mid-day, and lasted with more or less intensity till the evening, ceasing about midnight, and then permitting the exhausted patient to get sleep. In the mornings she appeared in good health, and free from pain; but at noon, the enemy regularly made his attack, as above described. The catamenia continued to flow, and on the eighth day an accoucheur was called, under the idea that the patient was suffering from abortion. This idea, however, was given up, and it was decided that the disease was phlegmasia of the uterus. Venesection, leeches, repose, fomentations, lavements, diluents, and the usual remedies, were prescribed, but instead of relieving, they greatly aggravated the paroxysms. Dr. Duparque was called in on the 14th of March, the twenty-fifth day of the disease. The patient was now reduced to a complete state of emaciation—the appetite being nearly natural, the tongue moist and clean, the skin a little hot, the pulse quick and irregular, the abdomen soft and insensible to pressure, but this pressure excited some pain in the iliac and hypogastric regions. Nothing particular could be detected in either of these regions by manual examination. The os uteri felt rather turgid, and more open than natural, but not more so than during the catamenial period. The uterus itself did not appear to be at all enlarged. Dr. Duparque considered the disease as a regular PERIODICAL HYSTERALGIA, and promised the desponding patient a speedy cure. Eight grains of the sulphate of quinine were ordered to be taken during the next remission. The paroxysm did not return at noon, but only a few mitigated pains in the evening. There were no more attacks, but the patient continued the quinine for some days, by way of precaution.

Case 3. This case was recorded in the *Journal of Vandermonde*, so long ago as the year 1779, and bears upon the present investigation.

A female, aged 35 years, of melancholic temperament, was seized, after some domestic troubles, with *hysterical paroxysms*, evinced by great commotions in the bowels, globus hystericus, and a sense of insupportable anxiety. These paroxysms returned in the evening, lasted through the night, preventing sleep, and disappeared in the morning. She had been three months in this state when the narrator was consulted. The attacks, at first, were separated by intervals of a few days; but latterly they had been almost daily. She was cured, and very promptly too, by the sulphate of zinc.

Case 4. This is a case of intermittent rheumatism which happened in the person of Mr. Rumsey, a surgeon, and is recorded in the *Edinburgh Medical and Surgical Journal* for July, 1818.

"Fever came on in the afternoon, with a violent pain of the abdomen, a great sense of

distention, and actual enlargement, with great flatulence. My own sensation was, that nothing would give relief but evacuations. An enema was given with little or no good effect, yet, in the course of a few hours I fell asleep, and awoke in the morning almost well, not expecting any renewal of disorder. But on the next evening I found myself suffering again precisely in the same manner. Obtained little or no relief from the injection, which I repeated, feeling as if nothing would relieve my pain but evacuations. Again I became well in the night, and was in the morning without fever or complaint. In the ensuing afternoon, at the usual hour, I was attacked, for the third time, with fever, my bowels were inflated, hard and full, and aching in the most distressing way. I began to suspect that the complaint was intermitting rheumatism, especially as I had many times had the most painful intermitting face-achs, which always gave way to bark. I had recourse to this remedy in substance, and, to my great satisfaction, escaped the paroxysm on the following day. My speedy recovery convinced me that the attack was intermitting rheumatism, and not inflammatory, as might, with reason have been suspected.

"I thought it a remarkable fact, not aware that rheumatism affected the muscles of the abdomen in this way, and still more remarkable, that, by their vicinity to the bowels, without any intelligible or direct communication, the viscera should be also affected, as the flatus and distention proved."

We admit that rheumatism is very frequently an intermittent disease; but we see no reason for concluding with Mr. Rumsey, that his was a case of that kind. Well might he wonder how rheumatism of the abdominal muscles should affect the abdomen with flatus and distention. The case is a very well marked one of the trisplanchnic neuralgia now under investigation. Mr. Rumsey states some particulars of another case, where a lady, after travelling in damp ground, became affected with an illness which, at first, was obscure, but afterwards assumed the type of a quotidian ague, "the paroxysms being accompanied by a distressing pain in the abdomen." This patient was quickly cured by bark. The following case shows clearly, we think, the connexion between neuralgia of the cerebro-spinal nerves, and that of the ganglionic nerves. It is also recorded by Mr. Rumsey.

Case 5. "Mrs. W—r, about 30 years old, had a sore throat, with some inconsiderable sloughs in it. After some days, without any remarkable occurrence, it got well, and, within a day or two, she was much troubled with face and toothach. The pain was very acute, intermitting and returning once in the day, by a sudden accession. The use of the bark was begun, but producing a violent sickness and fainting, was discontinued. With warmth, and the use of wine, she soon lost the pain, and, except that she was weak, had for a few days no disease. Not many days had elapsed,

however, before she complained of pain in the lumbar region, leading round the abdomen, and producing actual enlargement, as well as a distressing sense of fulness and flatus. It continued two or three hours, and then left her easy. The night and following day were free from pain, until 5 o'clock in the evening, at which hour it returned severely, affecting the intestines by distention, producing restlessness, irritability, and feverish quickness of pulse. I witnessed the same daily paroxysm, followed by its interval for five or six days, with the variation of observing a later hour, and being weaker in its attack."

The following case is recorded by M. Hutin.

Case 6. A female, aged 34 years, previously in good health, was awakened in the middle of the night with violent palpitation, accompanied by severe pain in the region of the heart, so that she was threatened with instant suffocation. In this distressing condition she remained till the morning, when all the symptoms suddenly vanished. At the same hour in the succeeding night, the attack returned with equal violence—lasted till morning, and disappeared as before. The complaint now changed its form. The patient experienced, at irregular periods, violent pain in the stomach, accompanied by vomiting—or severe colic pains in the bowels, region of the liver, or kidneys, which observed a periodical character. Repeated applications of leeches to the anus and warm baths were employed without success. Tonics and antispasmodics effected a cure.

That these visceral neuralgiæ assume the form of malignant intermittent fevers, our author is convinced, and the following case related by Torti, among others, is quoted in support of this opinion.

Case 7. A female became affected with a simple ague, accompanied by pains in the abdomen, vomiting and purging. It was in the third paroxysm when Torti was called to her, and no information was given to him respecting the periodicity of the complaint. The local symptoms were alone complained of. He found the patient cold, without pulse, the face deadly pallid, the eyes sunk, the nose pointed, the temples hollow. Torti thought her in articulo mortis; but reaction succeeded, and a remission followed. Next day the violent paroxysm of pain, sickness, and purging returned, and went through a certain period. Torti now perceived the nature of the complaint—prescribed the bark in large doses, and soon put an end to the paroxysms. We shall conclude our list of examples with the following case from M. Bailly de Blois.

Case 8. An Irish gentleman, aged 22 years, residing at Rome, was seized, in the month of August, 1822, with a paroxysm of ague, accompanied by excruciating pain in the abdomen. When Dr. Bailly arrived, he found the patient in a state of indescribable agitation. He was rolling about in his bed, pressing the abdomen with his hands, and uttering the most doleful lamentations. The tongue was rather

white, without any redness at the point—no thirst—pulse full, strong, and developed. A pint of blood was taken from the arm, and 20 leeches were applied to the abdomen. In the evening, all the symptoms were dispersed, and the night was passed in tranquillity as was the following day. On the third day, however, he had a rigour in the morning, followed by fever, and the same excruciating pains in the abdomen which were described above. Twenty more leeches were applied to the abdomen, and a pound of blood abstracted from the arm. The paroxysm ceased in the evening—the night and succeeding day being free from complaint. On the fifth day, the symptoms returned with even increased violence, accompanied by great depression of spirits. The eyes of the physician now appear to have been opened. The paroxysm was allowed to proceed, and as soon as the apyrexia and cessation of pain took place, the sulphate of quinine was prescribed, and the attacks were stopped.

It is needless to accumulate more facts from various practical writers, to prove that examples of visceral neuralgia may be found in nervous colics, cholera morbus, periodical rheumatism, colica pictonum, &c. and that this disease, in its various shapes and domiciles, is still allied to, if not identified with—*intermittent fever*, not only as to cause, but as to treatment.

Anatomical Characters.—There are but few facts on record fit to demonstrate the nature of those lesions which constitute the trisplanchnic neuralgia. The difficulty of tracing the branches of these nerves, and still more of recognising their physical lesions, renders this part of the investigation almost hopeless in the present state of neurological pathology. Lobstein, who has taken pains with the anatomy of the visceral nerves, especially the trisplanchnic, found, on several occasions, unequivocal traces of inflammation in their structure, in the bodies of those who had complained of abdominal pains during life.

"On opening the body of a pregnant female, who had died of severe attacks of periodical vomiting, by which she had been harassed for some months, accompanied by severe pain along the spine, Dr. Lobstein was unable to detect any trace of inflammation in the brain, spinal marrow, or any of the thoracic, abdominal, or pelvic viscera. Having removed the organs of the abdomen, he found the semilunar ganglion of an intensely red colour, and evidently inflamed. The trisplanchnic nerve was much larger than usual throughout its whole extent."

The same accurate observer found, in a young girl of six years of age, who had been long alternately affected with obstinate cough and spasmodic vomitings, the left division of the solar plexus highly inflamed, whilst the right was perfectly healthy. But it must be confessed that we have much, or rather every thing to learn respecting the morbid anatomy of the ganglionic nerves. The facts which we have brought forward in these two papers of

M. Jolly, and the facts and reasonings which we shall shortly lay before our readers in the review of Dr. Macculloch's works, will, we hope, convince them that neuralgia is not confined to the nerves of relation, but extend also to the ganglionic system. The subject is highly deserving of attention, and its investigation will amply repay the labour expended on it. The periodical character of these visceral pains is too generally overlooked—the nature of the complaint is mistaken—the treatment is ineffectual, and not seldom injurious. Even since the commencement of this paper, we have seen several cases where patients were harassed with local and general bleeding for pains in the head, the hypochondria, and the stomach, which turned out to be *neuroses*, and not *phlogoses*, after all! We need not say that, when a practitioner is obliged to veer round from venesection to bark and arsenic, the patient naturally enough asks himself how it is that the Doctor did not give that medicine at first which cured the disease at last. These are occasions in which we cannot always veil the mistakes which we make, and, therefore, we have the more need to look sharply into the character of the maladies we are treating.

We shall wind up this memoir with one or two of the general conclusions, or rather inferences, drawn by our author, and which appear to us to be well-founded.

"1mo. That which distinguishes the visceral from the external neuralgia, is the greater severity of the pain in the latter class, which generally comes on in the evenings; whereas the visceral neuralgia are worse in the morning, and become mitigated in the evening.

"2do. Both classes of these neuralgia have the following characters in common, namely, a preceding malaise, nausea, chilliness, some præcordial anxiety—an accompanying irritation, and afflux of blood, with or without febrile action—a termination in perspiration or sedimentous urine—and, finally, intermissions between the paroxysms. These neuralgia, in both classes of nerves, cede to the same therapeutical means—and generally leave no cognizable trace of their existence after death, either in the nerves themselves, or in the organs to which these nerves are distributed."—*Bib. Med. Juin*, 1828.

From the London Medical and Physical Journal.

OBSERVATIONS ON THE ANATOMY AND DISEASES OF THE KIDNEYS AND URETERS.* By J. BOUILLAUD, D. M. P.

Neither the structure nor pathological conditions of the kidneys have been so much attended to as other internal parts. M. Andral, to whose pathological labours we are so much indebted, has passed over this part of the subject in silence. Even Morgagni has given

but an imperfect sketch of it. In some subjects but one kidney is found. M. B. has met with one instance of this kind. The kidney was situated across the spine, and was furnished with two ureters: it was considerably larger than the ordinary size.

Lobulated kidneys.—M. B. has seen this conformation in four adult bodies. The external configuration of the kidneys resembled in some degree the hemispheres of the cerebrum. The lobes and sinuosities which refracted them represented the circumvolutions and inflections of the brain. In one instance, two ureters proceeded from the right kidney, and, at the termination of about two inches, they united in one canal. The kidney was naturally formed.

Hypertrophy of the kidneys.—M. B. has frequently met with this affection, and generally in only one kidney. It is recognised by the following appearances: The kidney is a quarter, or a third, or perhaps even one-half larger than the natural size. Its substance is firmer, more compact, and redder. It is probable that in such cases the renal artery is enlarged, although this fact has not been determined. Hypertrophy of the kidney occurs under the influence of various causes, which determine to it an unusual quantity of blood. The most likely circumstance to produce this kind of plethora in one kidney is the existence of some obstruction to the passage of the blood towards the other. It happens, consequently, that hypertrophy of one kidney is frequently detected when the other is in a state of atrophy. Hypertrophy of the heart, and of the external muscles, takes place equally under the same conditions which preside over the increased size of the kidney.

Atrophy, or diminished nutrition of the kidneys.—This disease M. B. has frequently seen. Its characters are diametrically opposite to those of hypertrophy of the organ. The size of the kidneys is less than natural; their substance is paler; they contain less blood, and appear shrunk. Whatever cause obstructs the current of blood to the kidneys may produce an atrophy of them. In every such instance, M. B. has been able to demonstrate a greater or less obstruction to the free circulation of the blood. The pressure of an enlarged spleen has sometimes produced atrophy of the left kidney. The right kidney has been similarly affected by the continued, yet gradual, pressure of an enlarged liver. In other organs, as the heart, the lungs, the breast, the testicle, pressure frequently causes the same diminution of size.

Infiltration of urine, and cysts of the kidneys.—M. B. observes that no pathologist has hitherto described this affection; it is not, however, very rare, but it may easily escape the observation of a careless practitioner; the following are the characters of it: on the surface of the kidneys may be seen several round vesicles, which raise the covering membrane of these organs. These vesicles appear to be small cysts in the substance of the kidney, and are probably performed by a certain

* Journal Complementary, &c.

quantity of urine, which has distended the uriniferous tubes, in consequence of some obstruction to the passage of the fluid. M. B. has seen some of these cysts as large as a cherry. Sometimes, instead of numerous vesicles, he has detached one large sac, which he presumed to have been formed from the union of several smaller ones, of which the parietes had ruptured. He has found the whole of the kidney transformed into one large sac, containing either a transparent serous, or turbid, fluid.

Inflammation of the kidneys, and of the disorganizations which follow inflammation.—In consequence of their peculiar structure, the kidneys do not easily become the seat of those disorganizations which result from inflammation. Nephritis is marked by the following appearances: redness, tumefaction, presence of pus, softening of the structure of the organ, abscesses, ulceration of the external surface, conversion of the parenchymatous substance into a tuberculous, or encephaloid matter, which is, in a great measure, the product of the diseased secretion of the affected kidney. Cysts, either on the surface, or in the substance of the kidney, may result from inflammation. In two or three cases, M. B. has found the kidney converted into a fatty yellowish substance. The symptoms of the various ulcerations which the kidneys occasionally undergo are very obscure; this circumstance will not be considered so extraordinary when we consider, first, that the deep seated situation of the kidneys embarrasses our examinations; secondly, that derangement of the function of the kidneys produces similar symptoms to those which result from various affections of the bladder and ureters; thirdly, that pain is by no means a constant attendant upon renal disease. If we are to rely upon the statement of most pathologists, acute pain is the almost inseparable attendant upon inflammation of the kidneys; it is not denied that such is frequently the case, but M. B. affirms that he has observed the most decided marks of renal inflammation in the bodies of patients, who have never complained of pain in the region of the kidneys. This absence of pain may be more easily conceived, when we reflect that the kidneys in a natural state are but slightly sensible. Violent pain is not seldom complained of in the region of the kidneys, when no disease of them is to be detected. The presence of a certain quantity of blood or pus in the urine, when there exists no disease of the bladder, is a symptom of some affection of the kidney; when to this symptom is united a smart attack of fever, the existence of nephritis may be strongly presumed. At the commencement of the disease, if both kidneys are affected, an almost total suppression of urine takes place. Chronic nephritis, like most other internal inflammations of a chronic character, produces a slow fever, which destroys the patient by throwing him into that state termed renal consumption. When the affected kidney continues the performance of its functions, the

urine is much altered in its appearance, but sometimes it ceases to secrete; the urine being formed only by the healthy kidney, presents no unusual appearance, and the diagnosis of the disease is then extremely difficult. If both kidneys are simultaneously disorganized, so that a total cessation of the secretion of urine takes place, the same phenomena will occur as we observe in animals, in which both ureters are tied, or both kidneys removed, violent fevers quickly arise, and a strong smell of urine is exhaled from the body. Is hypertrophy of the kidneys ever the cause of diabetes? M. B. is not furnished with sufficient facts to justify him in giving a positive answer to this question, but he has observed hypertrophy of the kidneys where the patient had been affected with diabetes. The ureters, like all other parts of the body, may suffer from inflammation, and undergo various alterations of structure in consequence; their canals may be much enlarged, diminished, or entirely obliterated; dilatation of the ureter may arise from any cause which obstructs the free passage of the urine into the bladder; contraction or obliteration may follow from any accidental compression, from inflammation of the internal membrane which lines the cavity, or from the cessation of the passage of the urine through the canal, from the function of the kidney being no longer performed in consequence of disease. The symptoms of affections of the ureters are as obscure as those which attend diseases of the kidneys. If both canals are obliterated at the same time, death would speedily result; but if one ureter only is obstructed, the caliber of the other will be increased considerably, from the additional duty which it will have to perform under such circumstances. In support of these observations, M. Bouillaud details several interesting cases.

From the Medico-Chirurgical Review.

RESEARCHES INTO THE CAUSES, NATURE, AND TREATMENT OF THE DISEASES OF INDIA, AND OF WARM CLIMATES GENERALLY. By JAMES ANNESLEY, Esq. &c.

[ART. II.—ACUTE HEPATITIS.]

In a former article,* we presented our readers with an analysis of the first half of Mr. Annesley's first volume on Indian diseases. We now resume our labours—we may well say *labours*; for it has never been out of lot to see valuable matter so diluted, and, comparatively speaking, *lost*, in a deluge of superfluous verbiage, as in these volumes. We understand that the East India Company make the purchase of this work nearly imperative on their medical officers. If so, Mr. Annesley has imposed a *heavy* tax on his oriental brethren. We do not allude to the *fourteen guineas*—

* Vide Journal of Foreign Medicine, p. 66.

though that is something to an assistant surgeon on first setting out—but, to the expense and inconvenience of employing a buffalo for the transportation of these volumes from station to station in the East Indies. That “*a great book is a great evil*,” will be amply verified in this instance—and many a time will “*mega biblion!*” be heard, in uncouth dialects, “o’er lofty Ghaut, through lonely glen,” as aspirated by the panting Coolie, while groaning beneath the weight of a—“*gray goose quill!*” Well might Mirabeau exclaim in the National Convention, “*words are things.*” They are indeed—and very *heavy* things sometimes! Had Mr. Annesley been acquainted with the discovery of our friend Lacon, and applied the *verbifuge* to his proof-sheets, he would have *lightened* the labours of many a personage, besides the buffalo and Coolie! But it is now too late, and we can only endeavour to diffuse the materials of these costly and highly valuable volumes in a more *portable* form than the author has thought proper to adopt.

Hepatitis is a word which almost universally, in this country, calls up the idea of a hot climate, and especially the climate of India. There is hardly any acute inflammation less common in Europe than that of the liver—none so frequent as this phlogosis in our Asiatic dependencies. The reasons why hepatitis should prevail more generally in India than England have been discussed, but not finally adjusted. Some place the etiology of the disease to the account of atmospheric heat—some to a specific miasm, peculiar to India—and others to the luxurious living of Anglo-East Indians. It is probable that the same miasm which produces jungle, marsh, and the whole tribe of remittent and intermittent fevers, gives origin also, in many instances, to dysentery, cholera, and hepatitis.

Mr. Annesley observes that—“inflammation of the liver generally *supervenes*, either as a *primary* disease, without any very apparent state of previous disorder, or as a consequence of one or more of the functional derangements, &c.” We notice this opening sentence of the section to show how fond the author is of words, and how little he cares about their meaning. How can hepatitis *supervene* as a *primary* disease? If it *supervenes* at all, it must *supervene* on some other disorder. Even the latter part of the sentence is clumsy, if not incorrect. If inflammation of the liver is a mere *consequence* of functional disorder, the word *supervene* is still an inappropriate one. We seldom indulge in verbal criticisms; but the work under review certainly requires much *verbal* expurgation. The right lobe of the liver is more frequently inflamed than any other part—the left lobe less frequently. The parenchymatous structure in Mr. A.’s experience, is much oftener the seat of phlogosis than the coverings of the liver. Frequently, indeed, we find the substance of the liver destroyed by inflammation or abscess, without any appearance of phlogosis on the surface.

“Inflammation of the substance of the liver

seldom commences with a well-marked rigour or chill, unless after exposure to a powerful exciting cause operating upon the system from without, as cold or wet, currents of air, night dew, or malaria. When chills or rigours mark commencing inflammation of the internal structure of the organ, there are generally one or more of the symptoms we have enumerated as characterizing congestion also present. Indeed, a congested state of the organ about to be diseased, always accompanies that particular condition of system which gives rise to rigours, if it does not actually cause this particular phenomenon; and it generally accompanies inflammation of the substance of the organ, to a greater or less extent, throughout its progress. The patient usually complains, about this time, of oppression, weight, and uneasiness about the pit of the stomach and right hypochondrium, extending sometimes under the ensiform cartilage, and in the direction of the diaphragm and mediastinum to the back and shoulder blades. These symptoms are usually increased upon a full inspiration, taken at the time when pressure is made beneath the ribs, or when pressure upon the stomach and back is made at the same time. The pulse is, at this very early period of the disorder, scarcely affected; but it soon becomes accelerated towards night; it is often slower and more oppressed than usual, and occasionally irregular or remittent. The countenance is now usually pale, sallow, or somewhat anxious; the spirits considerably depressed; the tongue yellowish, white, and more or less foul, and the patient complains of loss of appetite and of sickness, with an unpleasant taste in his mouth. The bowels are often irregular, but at first generally costive, and the urine is in small quantity, loaded, and high coloured. There is sometimes headach, and generally a disturbed sleep, and often slight dyspnoea and sighing, with a slight oppression at the chest and epigastrium.

“As the disease of the internal structure of the liver advances, the pulse becomes quicker, fuller, and more irritable in its beat during the evening and night, and it is often oppressed and embarrassed during the morning and day, and sometimes throughout, unless copious depletions have been practised early in the disorder; the sense of uneasiness in the region of the liver and epigastrium is often augmented; and if vascular fullness of the organ be great, and particularly when the inflammation results from congestion, the patient complains of a heavy, dragging pain, increased on sudden motion, or by turning suddenly in bed. There is often a short, suppressed cough, dyspnoea, with shortness of breathing, a catch in the respiration, particularly after quick motion. Upon examination, in these cases, tumidity of the viscus may be often ascertained from its protrusion beneath the ribs and scrobiculus cordis. The easiest position is usually upon the back, or sitting gently bent forward. All these symptoms are generally increased upon taking matters into the stomach; and the pulse is now much accelerated, especially towards

evening. Difficulty of lying upon the right side is not frequently present, and pain in turning to the left side is not often felt, unless the change of position be made suddenly. The tongue at this stage of the disease is generally coated, and of a yellowish or brown colour; it is frequently also dry, particularly at its middle. The pain sometimes complained of at the top of the right shoulder, and so improperly stated as being one of the chief signs of hepatitis, is, when present, certainly characteristic of the disease in the right lobe; but, unfortunately, this symptom is only occasionally present; and the inexperienced practitioner, who has been taught to look to this as a distinctive mark of the disease, infers, when it is not observed, that the liver is sound. With respect to the pain actually accompanying inflammations of this organ, we may state that it is often felt in the region of the liver, in the lower part of the thorax, and in the epigastric region: it is sometimes referrible to the top of the right shoulder, frequently to the right shoulder-blade, and occasionally to both scapulae: it is, on some occasions, seated in the back, between the lower angles of the scapulae; and, in some instances, the only pain which has been complained of has been in the loins. We have observed it, in a few cases, in the right clavicle and its vicinity; and in others, in the left shoulder and shoulder-blade only. In many cases, pain is increased in the situation of the disease, or its vicinity, upon quick motion, upon making a false step, or upon turning suddenly from one side to the other; and, in a few obscure cases, pain is complained of only on such occasions. When the internal structure of the organ is affected, the pain in the hypochondriac and epigastric regions is seldom acute; there is most frequently a sense of aching or dragging, with oppression at the præcordia. Pain is seldom acute, tensive, or pungent, unless the surfaces or ligaments become affected. There is usually great anxiety at the epigastrium and præcordia, accompanied with frequent sighing, particularly when pressure is made simultaneous on the right hypochondrium and under the right shoulder-blade. We have seen a few cases where pain followed the course of the muscles of the right side of the neck: it often extends from under the ensiform cartilage, in the direction of the mediastinum, to between the shoulder-blades; and when this is observed, oppression, dyspnoea, or a sudden catch in breathing, and a dry cough, generally accompany it. Pain frequently, also, extends from the right side, under the shoulder-blade, to the spine, where it terminates. On many occasions, when great congestion of the vessels of the liver seems to accompany inflammation of its substance—states of the organ which, as we have already said, are frequently co-existent—the right lobe becomes very much enlarged, and rises up into the right cavity of the thorax, occasioning great oppression at the chest, fulness at the epigastric region, dyspnoea, frequently dry cough, and sometimes acute pain, owing to the great distention of

the covering of the liver at this part, with an increased discharge of mucus from the bronchi. In such cases, the exacerbation of pain in the chest, upon a full respiration or on coughing, the flushed or tumid state of the countenance, occasioned by the interrupted circulation through the lungs and the seat of the complaint, are apt to make the inexperienced practitioner mistake the disease for pneumonia. In cases of this description there is generally more or less pain or uneasiness felt about the shoulder-blades, or top of the right shoulder, or between the scapulae; and often numbness of the right arm, with pain about the insertion of the deltoid muscle, or at the wrist, is complained of; rarely, a slight numbness or pain is also felt down the right hip." 419.

Nausea and vomiting are often concomitants of the more acute attacks, and generally indicate that the inflammation is seated near, or is extending to the stomach, or in the direction of the ducts. This more usually happens when the inflammation results from accumulations of vitiated bile.

"In such cases the patient complains of sense of fluttering, weight, and fulness, at the right hypochondriac and epigastric regions,—sometimes of pain in the abdomen,—and he reclines chiefly on the left side; the stools are generally watery, frequent, scanty, and very dark coloured, with tenesmus and many of the symptoms of dysentery, for which disease it is often mistaken. Even when but little sickness at stomach is present, there is always loss of appetite in the more acute forms of the disease, heartburn or gripes about an hour or two after a meal, and considerable thirst; with low spirits; and the patient often reclines upon the back or left side, in preference to any other position." 419.

As the inflammation advances, the fever, and especially the evening exacerbation, becomes more marked—the tongue is generally covered with a white or yellowish brown fur—moist in the beginning, but dry in the advanced stages. In cases where the hepatitis has supervened on previous disorder of the alimentary canal, or after repeated attacks of hepatic disorder, "the tongue seems often smooth and glossy, marked by fissures, and lobulated." These are bad signs. The bowels are generally much disordered—the motions being vitiated, scanty, slimy, watery, or of a dirty brown colour. The thirst is urgent, and the nights are restless.

"The state of the countenance and skin deserve attention during the progress of disorder. At its invasion, particularly when attended with chills or rigours, the countenance is pale or sallow, and the skin shrunk and pale on the extremities, but often natural in the trunk. As the inflammatory action becomes developed, the countenance fills out more fully; and when there is great fulness and oppression in the region of the liver and chest, the face often becomes fuller than natural, with some degree of dusky redness in the cheeks. The countenance and eyes, however,

still possess a murky, or muddy, or sallow hue, and more or less of a dark circle surrounds the eye, particularly beneath it. The tunica albuginea is either of a yellow tint, or of a dull white or pearly hue. The patient often complains of pain in the forehead and over the eyes. The skin on the trunk, especially towards evening, is generally warmer than natural, and is sometimes attended with a greasy feel, and a scanty or partial perspiration. When perspiration is copious, it is frequently very offensive. A certain degree of jaundice is often remarked in the hepatitis of Europe, especially when it terminates in abscess; but jaundice is not a frequent concomitant of hepatitis in India, unless when the ducts or gall-bladder become involved in the disease, or when it supervenes to biliary calculi and obstruction of the ducts. The countenance and eye are, however, always deficient of clearness, and possess a sickly expression." 421.

The urine is high-coloured, scanty, loaded, and produces a sense of scalding when passed. A dysenteric state of the bowels is a common concomitant—and healthy bile is hardly ever found in the stools. Mr. A. observes, what no practical man will doubt, that there is no *one* symptom or phenomenon on which we can depend, as pathognomonic of active inflammation in the liver—and he might have added, of inflammation in any other internal structure.

When the surface of the liver becomes inflamed, whether primarily or secondarily, the symptoms assume a more acute and definite character.

"Febrile signs are more prominent, and often supervene to slight rigours and chills; the pulse is generally much accelerated, and hard; the pain in the right hypochondrium is more or less acute; and when the upper surface of the right lobe is affected, or when great tumefaction of this part is present, so that it rises up into the chest, considerable pain and tension are also felt in the right thorax and under the ensiform cartilage and sternum, so as to resemble an attack of pleuritis. There is also cough, much increase of pain, or a catch, upon a full inspiration, or upon pressure, especially when made at the time of a full inspiration. When the whole of the upper surface of the organ is the seat of inflammatory action, the attack may be mistaken for pneumonia. The oppression, difficulty of breathing, pain in the course of the diaphragm and under the sternum, being generally considerable." 424.

The heat and dryness of skin and tongue are also greater in the membranous than in the parenchymatous inflammation. The secretions from the bowels are very variable in this form—generally they are diminished in quantity, and sometimes deficient of bile. Diaphragmitis is not unfrequently superinduced, in this form of hepatitis, from extension of the inflammation—and the lungs also are not uncommonly inflamed, attended with great tension in the hypochondria and inconvenience in breathing. The cough is hard, frequent, and suppressed as much as possible by the

patient. When the outer surface of the right lobe is inflamed, the patient lies best on that side, and has pain extending round to the right scapula—sometimes to the shoulder. On the other hand, when the concave surface of the organ is the seat of inflammation, the functions of the stomach are prominently disturbed.

"Nausea and vomiting are often present, particularly a few minutes after substances are taken into the stomach. The thirst, anxiety, and pain at the epigastric region, are urgent, and there is usually much pain in the back, and sometimes in the right shoulder and muscles of the right side of the neck. The pulse is variable, but generally irritable, quick, small, contracted, or hard. There is often felt a sense of fluttering at the scrobiculus cordis, with a heavy dragging pain in the same situation; anxiety and frequent sighing; and sometimes, in the advanced state of the disease, hiccup is present, especially after cold fluids are taken into the stomach. The patient generally reclines upon the left side, or leans gently forwards. All these symptoms become more urgent if the inflammatory action have extended to the gall-bladder, to the ducts, or to the stomach itself. When such is the case, there is generally a sense of burning felt at the epigastrium, with fulness, frequent and painful eructations of flatus, very quick pulse, with cold, clammy hands, and increased heat of the trunk. The vomiting is frequent and painful, the urine in small quantity, and the stools watery, scanty, and often morbid and offensive. When the ducts and gall-bladder are affected, the pain is felt darting to the right side and back, and from under the ensiform cartilage, in the course of the mediastinum, to the spine; sometimes it extends from the epigastrium to the umbilicus, and back to the right hypochondrium. Singultus and acrid eructations not infrequently also supervene as the disease advances, particularly after substances are taken into the stomach. The patient can seldom bear pressure on the right side and epigastric region, and feels increased uneasiness upon a full inspiration. Increase of uneasiness merely cannot, however, be considered as a distinctive sign of the seat of the inflammation, as this function is more or less affected, particularly on attempts to fill the lungs, in all the stages and forms of the disease: the degree, however, to which the breathing is affected, and the seat of pain or uneasiness, upon taking a full inspiration, is often a guide to the actual state of disorder. A similar remark may be applied to the pain and uneasiness frequently felt upon making a forced expiration: for this means of ascertaining the seat of pain ought always to be practised, whenever the exact nature of the case is in any way doubtful. There are also observed great restlessness and want of sleep, a foul state of the tongue, with large, foul, and brown papillæ. If the tongue become clean from the treatment, the papillæ generally remain long excited or prominent." 427.

It is but seldom that the left lobe of the liver is alone inflamed—and indeed it may be said that membranous inflammation is seldom unaccompanied by an extension of the phlogosis, more or less, into the substance of the organ. The symptoms will then, of course, partake of the characters peculiar to both forms.

PATHOLOGICAL APPEARANCES.

Excepting where people die of other diseases, as fever or dysentery, it is seldom that the pathologist has an opportunity of observing the appearances presented by the early stages of hepatitis. When such opportunities do occur, he often finds some part of the surface or interior of the organ evincing the usual signs of phlogosis—vascularity, redness, gelatinous coatings on the *surface*—increased vascularity, redness, and friability or softness in the recently inflamed *parenchyma*.

“In some instances, the surface of the inflamed organ is variously shaded. Sometimes, it is marked with red, brown, brick-coloured, greenish-brown, and even with almost black spots and streaks, while the internal structure is inflamed, congested with blood, much tumefied, and softer than natural. Upon making a section of the viscus with a very sharp scalpel, and after wiping with a sponge the cut surfaces, they present a lighter-coloured reticulum, or mesh, studded with red or brick-red granula, and the divided ends of blood vessels and biliary ducts. Upon being torn asunder—which is generally done with more facility in the acutely inflamed state, although sometimes with more difficulty in the chronic conditions of disease—the torn surfaces exude a greater quantity of fluid blood, but still retain their minutely granulated structure, and present both a brighter and a deeper colour than in their healthy state. When abscess forms in the substance of the organ, then the appearances become very materially and very variously altered.” 434.

Gangrene has been remarked by many writers and teachers—but our author, whose opportunities have not been exceeded by any other practitioner, never saw a case of the kind. It is probable that the black congested and softened state above described, has been mistaken for gangrene. The inflammation and its consequences frequently spread, of course, to the neighbouring parts, and the stomach, duodenum, colon, lungs, and even the kidneys, are often involved in the destructive process. Sometimes the liver is found tumid and congested—the ducts either with inspissated bile, or reduced to an impervious cord. This constriction of the duct appears, in some cases, at least, to be the result of spasm—in others, of organic change from preceding inflammation. Our author very properly enjoins a careful manual and ocular examination of the region of the liver in all cases.

“Manual examination should, therefore, be resorted to on every occasion; and the trunk of the body should, in all cases, be exposed

to the view of the practitioner, in order to ascertain if fulness or bulging exist in any part of the hypochondrium or in its vicinity. When manual examination is being made, one hand of the practitioner should be pressed at first gently upon the part between the base of the right shoulder-blade and the spine, whilst with the other he endeavours to detect, gently, delicately, and with refined tact, tenderness, fulness, or distention, either beneath the right false ribs, at the epigastric region, to the left of this region, or between the right hypochondrium and umbilicus. The state of the intercostal spaces should also be examined on the right side: and if pain be complained of in any of these situations, its nature may be inquired into by careful and varied pressure, whilst counter-pressure is being made on the back, in the place pointed out. The patient ought also to be made to breathe fully at the time when this examination is going forward, and he may be directed to bend, or move his body in various directions. If fulness, tumefaction, or distinct tumour, be felt, the practitioner should endeavour to ascertain their nature by gentle and varied pressure with the points of the fingers; and the existence of tenderness, the degree of tenderness, the depth at which it seems to be seated, and the presence of fluctuation, whether obscure or palpable, ought to be inquired into with as much dexterity as the practitioner can command.” 437.

ETIOLOGY.

Amongst the first causes of hepatic inflammation, Mr. A. places all those which “disorder the functions of the stomach, and at the same time derange the circulation in the biliary organs.” This vagueness of expression is not much cleared by what immediately follows:—“These are whatever directly or indirectly produces a plethoric state either of the vascular system generally, or of the digestive organs, with debility.” In a subsequent page we have a more tangible catalogue of the causes which produce hepatitis in our Eastern possessions. These are, full living, especially on animal food—high-seasoned dishes—high temperature—moisture—malaria—neglect of the bowels—indolence—puberty—wine—insolation—depressing passions, and all the various causes of dyspepsia.

It is curious that the age of puberty seems to be so operative in disposing to hepatitis. The disease is seldom or never met with amongst Europeans before that epoch. There are many circumstances, however, which call into play the various causes of gastric and hepatic affections after the age of puberty, which were previously inoperative. Among the causes enumerated, Mr. Annesley dwells strongly on the effects of bad water. The depressing passions are consequences and causes equally of the disease in question. The influence of atmospheric heat in the production of hepatic derangements is now acknowledged almost universally; and it is on this principle chiefly, that we can account for the

comparative frequency or infrequency of the disease in different parallels and localities of our Indian empire.

"A varied observation in different provinces in India has furnished us numerous proofs in illustration of the very extended influence of this cause amongst the natives of temperate climates; and we need only refer to the Abstracts of the returns (given at p. 110 *et seq.*) and in the Appendix to the present Volume, for proofs of this influence on an extended scale. In the Carnatic, the prevalence of hepatic disease is well known: here the range of temperature is much higher than in any other part of India; the fall of rain is also very much less than in the provinces under the Bengal and Bombay presidencies; and the soil more naked, more gravelly, and less retentive, than the latter: hence the great heat is not so frequently nor so adequately abated; and the cooling effects of a fall of rain sooner cease. Whilst the provinces under the Madras presidency are near the equator, several of the other districts of the British empire in India are situated beyond the tropics; and thus, from latitude, and the various peculiarities of soil, situation, and climate, the Carnatic and several other provinces in the Indian peninsula possess a much higher range of temperature, and a proportionately greater liability to inflammatory affections of the liver. It is sufficient for us to express the result of our own observations respecting the matter, since the same fact has been very justly stated and illustrated in Dr. James Johnson's valuable work on tropical diseases, which is deservedly in the hands of every practitioner in warm climates." 441.

A series of very instructive cases of acute inflammation of the liver are here introduced by Mr. Annesley. One case will be sufficient to illustrate the treatment of acute hepatitis, to which we shall next proceed.

"*Case.* Richard Kelly, (had been several years in India,) was admitted the 15th March, 1817, with the symptoms of congestion of the liver and accumulation of bile. These were removed by an emetic and purges. Five days after his discharge he returned, and on the evening of the 22d, the following report of him was given in the hospital journals:—Attacked with severe aching pains in the loins, shoulder-blades, and right side; anxiety; cold partial sweats; foul and excited tongue; and quick pulse.—Apply twenty leeches to his side. Calomel, gr. xx. h. s. s.

23d.—The pain in his back and side is relieved; but he has still occasional pain under the ribs: he has also some pain in his right shoulder. Tongue white and excited; pulse 80, small, irregular, and irritable. The pain is increased on a full inspiration. Was purged in the night.—Twenty-four leeches to the side; and the mist. purgans, with half an ounce of sulphate of magnesia.—*Evening.* Pain of the side nearly gone, but he complains of soreness over his whole body; pulse 96; tongue dry, furred, and excited; great thirst; stools crude and copious.—Calomel.

gr. xx. h. s. Mist. salina febr. A blister to his side.

"24th.—Stools crude and full of viscid mucus; pain in his side and shoulder gone; tongue white and furred; pulse 78.—Pulv. purgan. 3jss. stat. Rub in 3j. unguent. mercur. thrice daily. Pilul. hydr. cum calom. no. 1 ter die. Haustus amar. cum sennâ, 3ij. primo mane.

"This treatment was continued during the 25th and 26th. The pulse became less frequent; his tongue cleaner; and his motions more natural. On the 27th, he had a slight return of pain in the night, beneath the fifth rib of the right side; but his tongue and stools were natural at the morning visit; his pulse 66; and his skin cool.—Twelve leeches were applied, and the pilul. hydr. cum. cal.; the mercurial friction and haust. amar. cum sennâ were continued.—*Evening.* Can breathe with perfect ease; no complaint.—On the 31st, the mercurial friction was diminished; the pilul. cum. cal. was omitted; and five grains of blue-pill given every night; the saline mixture through the day: and a dose of the purging mixture early in the morning.

"On the 2d of April, he was perfectly well; his bowels, tongue, skin, and pulse, being perfectly natural. The blue-pill and mercurial friction were left off; and a dose of the purging mixture given occasionally. He was discharged on the 4th.

"*Remarks.* This case illustrates chiefly the connexion often existing between functional disorder and inflammation of the organ. The symptoms were clearly referrible, in this case, to the liver, and indicated disease affecting principally its internal structure. In this case there was no rigour at its commencement; and the pain of the shoulder was at first not present. General soreness, after the pain had been removed by depletions, was here complained of, and is a frequent symptom of inflammation of the internal structure of this important organ." 448.

TREATMENT OF HEPATIC INFLAMMATION.

This is one of the most important subjects which a tropical writer can descant on—especially as there is some discrepancy of opinion, not so much in respect to the nature of the remedies, as to the extent of their application.

General and local bleeding. Although this is the most powerful of all therapeutical agents, even between the tropics, yet it is not *there* practised to the extent which Mr. A. deems proper. This, of course, is owing to a lingering portion of ancient prejudice. The following are his sentiments on this head.

"We can truly say, as respects the different forms of inflammation of the liver as they occur in India, that we have had occasionally to regret not having practised blood-letting when it might have been attempted with hopes of success, or carried it sufficiently far to be really beneficial; but we have never found that mischief resulted either from its performance, or the extent to which it had been pushed. Numerous instances, on the other hand, have

come before us where,—from early education, the indulgence of prejudices, an indifference to the examination of those who have died of this class of diseases, and, consequently, from an insufficient acquaintance with the nature and extent of disease which occasioned death,—sufficient vascular depletion had been neglected at the stage of the malady when it might have been more serviceable, and the formidable consequence of disease prevented." 583.

Leeches in India are abundant and of excellent quality—consequently local depletion, to any amount, may be expeditiously affected. In the majority of cases, the local is preferable to the general bleeding—though the latter is indispensable amongst those who are fresh from Europe, full-blooded, and robust. Mr. Annesley ascertained that Indian leeches, on an average, extracted an ounce and a quarter each, besides what flows from the bites. In the active forms of hepatitis, then, and among recently arrived Europeans, Mr. A. took one or two bleedings from the arm—the first carried to the point of making a sensible impression on the vascular system. When the excitement returned, from 16 to 30 leeches were applied to the right hypochondriac and epigastric regions. If the symptoms were not considerably relieved by these general and local depletions, the leeches were re-applied and a large hot poultice laid over the bites, these last being stopped from bleeding previously. Mr. A. attaches great importance to the poulticing practice, especially where the hepatic disease is complicated with biliary derangement and dysenteric symptoms. The repetition of the local bleedings must, of course, depend on circumstances that require no detail here.

Among those who have resided long in India, local depletion will be generally sufficient, even in the most acute forms of the disease. With soldiers who have been addicted to strong liquors during their tropical services, depletion must be very cautiously employed.

Mercurials—Purgatives, &c. When we consider how much the function of the liver is deranged before and during the attack of hepatitis—and how morbidly altered are its secretions, we cannot be surprised that purgation, and especially mercurial purgation, should be very generally necessary.

"For this purpose, we have generally prescribed, immediately after the first vascular depletion, a full dose of calomel, as this medicine appears to us the most beneficial in inflammatory states of the system, the most active in eliciting a healthy secretion of bile, and the most efficient in dissolving that viscid and tenacious secretion which covers the mucous coat of the intestinal canal at the commencement of nearly all the disorders affecting the organs of digestion. Unless the patient has come under treatment early in the day, when we have given this medicine immediately, we prefer the exhibition of it at bed time, as it will then not disturb the rest of the patient by its operation, and will have had

time to produce its effects upon the secretions and secreting viscera before morning; when a brisk purgative should be given, in order to carry out of the system accumulated faeces, and those morbid secretions which the previous exhibition of the calomel had prepared for removal." 593.

Mr. A. prefers the compound powder of jalap to other purgatives, for the above purpose—next to it, castor oil, and lastly, the "black draught." It is of great consequence in this complaint that the patient should not be disturbed in the night—and, therefore, when the bowels are irritable, Mr. A. recommends an opiate—even when it is necessary to give calomel every night. The following observations are important.

"If the exhibition of twenty grains of calomel at bed time, and a purgative in the morning, saline diaphoretics being given through the day, affect the mouth, which frequently happens when vascular depletion has been carried sufficiently far, ptyalism should be quickly induced; but after its supervention, mercurials ought to be laid aside for a time. The reason of our recommending the speedy induction of ptyalism after the mouth becomes affected, is an idea which we entertain respecting the influence of the constitutional effects of mercury upon inflammations of the liver; namely, that to induce the mercurial excitement of the vascular system, indicated by slight soreness of the gums, and to exhibit mercury or calomel in small quantities, frequently repeated with this view, is to keep up a state of slow inflammatory action in the secreting substance of the liver, which may of itself terminate in abscess; whilst, if the full operation of mercurial remedies be speedily induced, and ptyalism become abundant, a derivation from the seat of disease is occasioned to the mouth and salivary apparatus, the disease in the liver speedily subsides, and the functions of the organ are restored to their healthy state. We believe that much evil very frequently results from the general habit of giving too frequent doses of calomel, with a view of inducing the constitutional effects of mercury. Those who prescribe five grains of calomel every three or four hours, with this view, produce much greater irritation of the alimentary canal, are longer in obtaining their object, and exhibit much more calomel for the removal of the disease, than those who give twenty grains only at bed time. This latter dose acts as a sedative to the irritable stomach in this disease, whilst smaller doses increase the irritability of this viscus when it is present, and often induce it where it was previously absent." 594.

If bowel complaint exist or supervene, one or two grains of opium are to be combined with the calomel, and emollient enemata should be thrown up. In this way the calomel will soon affect the system, especially if vascular depletion have been sufficiently employed previously. Mr. A. is not an advocate for going on to the production of full ptyalism in those cases where the secretions become

healthy before that event takes place, and the other symptoms subside.

"But if the secretions and stools still remain morbid; if any disorder can be detected, by a careful examination of the patient, in the seat of the liver or in the abdomen; if the tongue be not natural, and if the countenance be sallow or unhealthy,—the speedy induction of ptyalism will then often prove of service. If, however, we fail in inducing this effect in the course of four or five days, we shall generally find it detrimental to continue this plan any longer. The means by which the speedy induction of the mercurial action may be accomplished are various; but we have generally relied most upon mercurial inunction, performed thrice a day, with a combination of camphor with the mercurial ointment, the patient taking the usual full dose of calomel at bed time, combined with James's powder, or antimonial powder and opium." 596.

Ptyalism once fully established, the mercurials are to be discontinued, and gentle tonics, combined with alkaline carbonates, are to be administered, together with saline aperients.

In the subacute and less active forms of Indian hepatitis, the use of saline purgatives, alternated with mercurials and alteratives, will generally be sufficient, after moderate depletion. But these failing, "the practitioner should endeavour, in the manner stated above, to induce, as speedily as possible, the full effects of mercury."

Auxiliaries in the Treatment. "There are very few remedies which are more deserving notice than the nitro-muriatic acid wash, and the internal use of nitric acid, in cases of acute hepatitis, after active depletions and mercury have been used: they promote the return of strength and the healthy establishment of the biliary secretion; and if deobstruent laxatives, with suitable regimen, be prescribed; and adhered to during their use, they remove obstructions, and promote a free circulation in the vessels of the liver. As a restorative of the energies of the system after mercurial courses, they have generally proved beneficial in our practice, particularly when conjoined with the cautious exhibition of gentle tonics, with light but nutritious diet, and suitable regimen." 600.

On the complications of acute hepatitis with pleuritis, gastritis, and inflammations of different contiguous organs, it is quite unnecessary to dwell, since the principles of treatment cannot be misunderstood, after what has been already detailed. From this article, the English reader will be able to form a very correct idea of the practice of medical men in the acute and dangerous inflammations of the liver between the tropics. Mr. Annesley is a man of such ample experience, sound judgment, and scrupulous fidelity, that every thing falling from his pen is highly valuable. If we have regretted the costly manner in which he has cast his volumes, and the unnecessary minuteness with which he has

treated most of his subjects, we can assure him that not one of his most ardent admirers entertains more unfeigned respect for his talents and industry than ourselves. We cannot help again suggesting to him the propriety of publishing the letter press of these volumes in a more condensed and less expensive form, leaving the plates to be purchased by those who can afford the expense.

In our next article we shall take up the important subject of CHRONIC HEPATITIS, a disease now imported annually into this country, so as to make it a matter of anxious investigation with every medical practitioner. An accurate acquaintance with the acute forms of Indian Hepatitis, however, is indispensable to the study of the chronic forms, and for this purpose we have laid before the English reader a very comprehensive analysis of the facts and observations recorded in the great work before us.

From the London Medical Gazette.

LUXATION OF THE FEMUR.

To the Editors of the London Medical Gazette.

GENTLEMEN:—The following is a correct statement of the particulars of a case of luxated femur, recently admitted into St. Thomas's Hospital under my care. The circumstances entitling it to notice are, the reduction after so long a period as five to six months; the relapse of the bone from its socket in the patient's movements upon his bed, and the yielding of the cervix femoris during the efforts for its replacement, on the sixth day following. The issue of the case shall be communicated; but as, in addition to the above reasons for its publication, it is probable that inaccuracies may find their way into the reports of bystanders, I beg to authenticate the following.—I am, Gentlemen,

Your obedient servant,

BENJAMIN TRAVERS.

Bruton Street, 17th Nov. 1828.

A stout middle-aged countryman, whilst employed in felling a pollard on the 4th of last June, was struck down by its unexpected fall; his right arm was fractured, and his right thigh dislocated. He describes his sensation as that of being beaten away from his limb, while, from his position, it was in a state of extreme abduction from the trunk. On his admission into St. Thomas's, on the 4th Nov. inst. the limb was observed to be shortened about two inches, the knee and foot inverted, and the thigh slightly bent upon the pelvis. It was immovable, except to a very limited extent, and the attempt at abduction or rotation outward painful. The head of the bone was very distinctly felt lying upon the ilium, above the ischiatic notch; and the trochanter in a line drawn from thence to the anterior inferior spinous process of the ilium.

On the 7th Nov. (with the concurrence of my colleagues) the man was placed in a bath, heated to 90 degrees, and gradually raised to

108 degrees during his immersion for 20 minutes, when he was carried directly to the theatre. He was bled to $\frac{3}{4}$ xxii. whilst in the bath. Being now laid upon his back, and the counter extension secured by a padded belt passing between the displaced bone and the pubes in a right line with his body, the extension was made in much the same line of direction, by a rope and pulleys attached to a padded strap made fast above the knee. As the extension proceeded the pelvis was fixed by a girth round the table, and a round towel, passed under the top of the femur, was drawn upwards by an assistant. During the operation the man took at intervals a solution of half a grain of tartar emetic, and lost another pound of blood from his arm. Gentle rotation of the knee and foot outwards was made from time to time, and at the expiration of about 45 minutes the head of the bone, which had been felt progressively descending, slipped into the acetabulum with a sharp and very audible report. Immediately after releasing the patient, the observation was made that the limb was shorter than the other; but it was no longer inverted, was free to move to the extent which was thought prudent, and the configuration of the hip, as compared with the opposite, and the natural distance betwixt the spine of the ilium and trochanter femoris, were restored. The man felt (to use his own phrase) that it was all right; he was replaced in bed, with his knees bound together by a roller, and a strong caution to remain strictly without motion; also to pass his stool, when he had occasion, upon the draw sheet. Half an hour after his removal to bed I carefully examined his limb, and found it straight, and to appearance, of the same length with the opposite. In the night he became very restless from pain in his loins, from which he had suffered much since the injury; and although repeatedly cautioned by the sister and a fellow patient to lie quiet, turned himself over to the left side, and repeatedly raised both knees. The bed-pan also was employed contrary to express direction; and for this purpose he assisted in raising himself. The consequence of some one of these movements was, that the limb was again displaced, and the next day the head of the bone was ascertained, upon examination, to be lying imbedded in the notch, so that only a segment of it could be felt. Having some febrile action, a dose of scammony and calomel was given, and an antimonial draught prescribed, to be repeated at intervals. On the 6th day (Thursday,) being well recovered, and with excellent courage to repeat the attempt at reduction, he was again conveyed to the theatre, the precaution being taken to prepare a double inclined plane-bed, and adapt it accurately to the length of the sound limb; upon which it was intended to confine him by fixing the foot and pelvis. The head of the bone was now less advantageously situated for reduction. The man was laid upon the table, which was placed obliquely between the points of extension, inclined to his sound (left) side; and the ex-

tension so applied as to draw the thigh a little obliquely upward, in a direction across the opposite. An assistant raised the shaft of the bone at its upper extremity, and rotation was occasionally made of the knee and foot to such extent as the strictness of the extension would allow: the pelvis was fixed as before. A full basin of blood was taken from his arm, and he took two doses of the solution of emetic tartar. On relaxing the cord, after a second extension of about a quarter of an hour, for the purpose of giving more scope to the requisite motions of the limb, a degree of mobility was instantly perceived, together with a distinct sense of crepitus, which totally altered the nature of the case. Upon minute examination, the cervix was discovered to have given way, and the head of the bone, apparently broken short off, lay upon the ischium, above the spine of that bone, at the lower and outer edge of the acetabulum. The limb was, of course, free to move, the foot slightly everted, and in length little differing from its fellow.

The man was now placed upon the fracture bed, the foot of the affected limb secured, as in fractured cervix, and the pelvis strap applied. Some simple dressing was laid upon the excoriated knee and groin, and the man being chilled, and complaining much of pain, 50 drops of tincture of opium were given him in a camphor draught. At 9 P. M. his chilliness had abated; he still complained of pain in the hip, but felt a disposition to sleep. Nov. 14. Had some refreshing sleep, but complains less; bowels not opened. Ordered to take a dose of P. Scamm. c. calomel, which operated freely. Position of the limb remains unaltered. Nov. 15. Patient easy; bowels well opened during the night. Nov. 17. The patient is entirely free from fever, and makes a little complaint of the knee and loins, none of the hip. The right limb is about an inch the shorter of the two.

From the position in which the man describes himself to have stood at the time the blow was inflicted, we should have said the dislocation upwards and forwards was that most likely to have been produced; but it is probable his position underwent some instantaneous change, of which he was not conscious, in the effort to escape whilst the tree was swerving from the direction in which it was meant to fall. I have said that upon his admission the head of the bone was distinctly felt above the ischiatic notch, *i. e.* at its superior and anterior margin. Here it is easily felt, being covered only by the glutæus maximus muscle. I am disposed to think, with the late Dr. J. Gordon,* that this is the common situation of the head in the luxation upwards and backwards, and not the hollow of the dorsum; in which, according to Boyer, it forms a cap of the glutæus minimus. This was the situation in which Mr. Trye, of Gloucester, found it, in a dissection made on the twenty-second day from the accident, when it was

* A Probationary Essay on Dislocations of the Thigh Bone. Edin. 1808.

brought into view by raising the glutæus maximus, not placed on the dorsum of the ilium, but inferior to the margins of the lesser glutæi. If the head of the bone lay in the hollow of the dorsum, the shortening of the limb would be nearer four inches than two.

I have been asked whether the fracture did not occur in the first attempt at reduction; and whether the snap attributed to the restoration of the bone to its socket, was not occasioned by the fracture. I answer—

If the crash of fracture resembles indistinguishably the peculiar short snap, or pop, which generally attends reduction of the femur, and often, though for obvious reasons in a less degree, of the humerus;—if the signs of fractured cervix are immobility, permanent flexion of the thigh on the pelvis, and inversion of the knee and foot, so that the inner condyle of one femur lies against the base of the opposite patella, and the toes of one side upon the instep of the opposite foot; if these are indications of the case supposed, I will yield the conviction which I had derived from actually grasping the head of the bone during its descent, until it suddenly slipped into its place. With respect to the seeming shortness of the limb after reduction, a slight change of the points of bearing, instinctive on release from painful confinement—and every body knows how great a change in the appearance of the limb the slightest obliquity of the pelvis produces—can alone explain it, since the difference had disappeared in half an hour after the patient had been replaced in bed.

Mr. Osler, late surgeon to the Swansea Infirmary, sent me the report of a case of recent dislocation on the dorsum ilii, which relapsed twice as the man lay in his bed, at short intervals after the reduction. It was reduced a third time, and the parts so confined as to prevent a recurrence of the accident; and the man recovered perfectly. Mr. O. attributed the circumstance to a co-existing fracture of the brim of the acetabulum.

Much as I regret the accident which defeated the second attempt at reduction, I am not without hope that the termination of the case may be more favourable than that of non-reduction.

The accomplishment of reduction after a period of twenty-two weeks and four days is, I believe, unprecedented; it is an exception to a surgical canon, resting on high authority, that, after the lapse of a much shorter period, the attempt should not be made.

The indispensable importance of securing the limb by extraordinary apparatus, which was, in this instance, unfortunately overlooked, from the little apprehension entertained in ordinary cases, I need not insist upon. It may be concluded that, in addition to the destruction of ligamentous attachments, and the formation of preternatural adhesions, some considerable changes had taken place from absorption in the dimensions of both ball and socket, predisposing, probably, to the relapse in the first instance, and the fracture in the second.

Medical and Philosophical Intelligence.

Puerperal Insanity—From 57 cases of this malady treated by Dr. Burrows, he deduces the following corollaries:

1. That mania is a more frequent consequence of lying-in, and the process of lactation, than any other variety of mental derangement.

2. That puerperal insanity occurs from the age of twenty to thirty, in the proportion nearly of two to one at all other ages.

3. That in London, physical causes much more frequently originate puerperal insanity than moral causes, the physical being to the moral as ten to one.

4. That the access of puerperal insanity happens before the fourteenth day in three out of five cases.

5. That it happens between the fourteenth and twenty-eighth days in one out of about six cases and a half.

6. That nearly four in five recover their intellects.

7. That not more than half recover in six months.

8. That those recover soonest whose delirium supervenes on the process of lactation.

9. That the maniacal form ceases sooner than the melancholic.

10. That the mortality is *apparently* but not *really* double Esquirol's return;* and that the greater number of deaths occurred before the second week from delivery.

11. That half, and possibly more, if the truth could always be discovered, attacked by puerperal insanity, prove to possess an hereditary predisposition.—*Commentaries on Insanity*.

Case of Tetanus, with Inflammation of the Spinal Chord, and Disease of the Anterior

* There were only six deaths in 92 cases recorded by Esquirol, and as not one of them occurred till more than six months from the access of the insanity, Dr. Burrows attributes the difference to their having all become chronic, and taken in the aggregate he observes, they do not give a greater rate of mortality, than is allotted to the same number who are insane from other causes. Of the 57 cases mentioned above, ten terminated fatally.

Roots of the Spinal Nerves.—This case, which occurred at Udina, is strongly in favour of the opinion, that the cause of tetanus is inflammation of the spinal chord; it also confirms Mr. Bell's idea, that movement depends on the anterior, and sensation on the posterior, roots of the spinal nerves.

A woman, of forty years of age, felt, in consequence of over exertion, a difficulty of moving the lower jaw, a stiffness of the neck, and a tensive pain in the limbs. On the ninth day, after the first appearance of these symptoms, she was taken to the hospital; tetanus and trismus were then fully developed; the former in the form of emprosthotonos. Warm baths seemed to diminish the spasmodic affection of the jaw, but that of the trunk increased, and carried the patient off on the twelfth day. On examination after death, the brain was found in a healthy state; the vertebral canal was filled with a bloody serum; the anterior portion of the spinal chord was of a yellowish dirty white colour, and covered with small round and oval hydatids, from the size of a millet-seed to that of a pea; its substance exhibited reddish spots; the posterior part was healthy; the posterior roots of the spinal nerves had a very different appearance from the anterior roots; the latter were evidently softened, and presented a yellow colour; the former were perfectly healthy.—*Lancet*.

Hydrophobia.—Dr. Hertwig, professor at the veterinary school of Berlin, has seen in this establishment nearly two hundred mad dogs, and has lately published the results of his experience. Male and female dogs are equally subject to rabies at every season of the year; it is hardly ever accompanied by the dread of water, nor is foaming at the mouth a constant symptom; at first, the dog does not carry his tail between his legs, nor does he always run in a straight line, unless he is pursued. There are, apparently, two modifications of the disease; the one Dr. Hertwig calls the acute or fierce, the other the chronic or quiet rabies. In the first the dog becomes very restless, runs about, flies from his home, and returns again; does not easily forget his master, and even obeys him; afterwards loses his appetite, eats wood, straw, wool, and other indigestible substances; *often drinks*, and is constipated. The most characteristic symptom is a change in the voice; the tones of which are either higher or lower than usual; hoarse, rough, disagreeable, and indicative of distress. The bark is changed into a howl, the dog has an inclination to bite, and appears to see flies, as he often snaps at the air; his external appearance is, at first, not changed; but within a short time, the eyes become blood-shot, and are frequently closed for a few seconds; the skin of the forehead is corrugated; in the last period the eyes are turbid as if covered with sand, and paralysis of the hind-legs always occurs before death. The chronic or quiet rabies exhibits the following symptoms: from the beginning the lower-jaw hangs down, by which the dog is prevented from eating and

drinking; the saliva flows from the mouth, and the tongue is stretched out; he cannot bite, and seems very little disposed to do so; is very tranquil and sad, and seldom howls.

In none of the two hundred dogs, the disease lasted for more than ten days.—*Graefe u. Walther's Journal*.

Structure of the Veins. By Mr. CURTIS.—Having repeatedly injected the pulmonary veins, contrary to the course of the circulation, I was somewhat surprised to see in a number of the *Lancet*, dated Aug. 9th,* an account of their containing valves. This has induced me to examine the lungs of such animals as have come in my way with a view of discovering these valves; but I have been unable to perceive any thing that would in any way answer the same purpose as the valves in the veins of other parts of the body. In the pulmonary veins of the ox I certainly found, that where a small vein falls into a large one obliquely, the serous coat extends the division between them farther than the other coats; consequently part of the septum, between the veins, is entirely formed by this serous membrane; but this piece of membrane is in no way fitted to perform the office of a valve. It is elastic, and kept constantly tense; consequently, will not easily move to either side. It requires considerable force to draw it over the mouth of the smaller vein, which even then it will not completely cover.

To me it appears that the only use of this piece of serous membrane, extending beyond the other coats of the veins, is to prevent the too abrupt termination of the septum between them, which would have happened had all the coats terminated at once. In this case there would have been a small space left, which would have been out of the regular course of the blood in the veins, and where consequently the blood would have lodged.—*Lancet*.

Difference of the Blood in the Veins and Capillary Vessels.—The October number of the *Journal de Chimie Médicale*, contains some experiments by Dr. Pallas, which go to establish what might, *a priori*, have been supposed, but what, previously to the researches of this gentleman, had not been the subject of direct experiment, namely, that the blood in the capillary system, is more highly animalized than that contained in the veins, being heavier, of a brighter colour, more odorous and viscous. The following is an abstract of the experiments referred to.

A man who had had tertian fever for six days, during the greater part of which time he had been strictly dieted, was bled from the arm, while, at the same time, twelve leeches were applied on the right, and three cups on the left side of the epigastrium. A vessel filled with the venous blood as it flowed from the arm, weighed 19,950 grammes; the same vessel filled with the blood drawn by

* *Journal of Foreign Medicine* Vol. ii. page 473.

leeches, weighed 20,450 grammes; an equal quantity taken by means of cupping weighed 20,400. The venous blood had a deep black colour, and separated in a few hours into crassamentum and serum; that drawn by the leeches, was more viscous, presented a bright red colour, and exhaled an odour resembling that of a mixture of bile and urine; the crassamentum was larger than that formed from the venous blood. The blood obtained by means of the scarificator, had a deep red colour, was viscous, and exhaled a well marked bilious odour. The serum of the three kinds of blood was clear and transparent; that which was furnished by the blood drawn by the leeches, was red, and of a deeper colour than the others. Treated separately with an ounce of distilled water, the three specimens were subjected to ebullition to coagulate the albumen, in order to appreciate more correctly the proportion of the liquid to the solid parts. The following was the result obtained. Solid parts of the venous blood well dried, 2,550; of the blood drawn by leeches, 3,100; of the blood obtained by cupping, 3,000.

The subject of the second experiment had had, for several days, an intermittent gastric affection, accompanied with general irritation of the vascular system. The vessel above mentioned filled with blood as it flowed from the vein, weighed 20,350; an equal quantity taken, not as in the preceding experiment, from that which the leeches had sucked, but collected after their fall from the bites which they had made, weighed 20,750: in this instance also, the latter was heavier, more coloured, odorous, and viscous than the former. Treated with water as before, the venous blood gave of solid parts, 2,550; that taken from the capillary vessels, 2,630.

In a third experiment, which was accidentally interrupted, the blood drawn from the vein, and from the capillary system, weighed respectively 20,700, and 20,950; as in the other experiments, the latter was also more highly coloured, more odorous, and viscous than the former.

It is to this difference of chemical composition, observes M. Pallas, that we must attribute the preference given by physicians to local bleeding in a variety of cases. Although many causes must concur to vary the proportions of the constituent principles of human blood, such as age, sex, temperament, constitution, manner of living, health, disease, &c., &c.; the difference which we have pointed out, must be uniform in the same person, and explains the important rank accorded to the blood of the capillary vessels in the production of the phenomena of life.

Vaccination.—The London Medical Gazette for Oct. 25th, contains some observations by Dr. Alderson, on the carelessness and indifference with which vaccination is performed in many parts of England, causes to which the great number of failures which have occurred are mainly attributable. It has long been, he observes, my most firm conviction, that the genu-

ine cow-pock will never be promulgated universally and efficiently—that the public will never be freed from frequent and terrible visitations of the loathsome pestilence *vareola*—until the legislature shall, in their wisdom, devise some plan to obviate the present defects—some decisive measure whereby the ignorant empiric shall be silenced, and the children of the poor throughout every corner of the island, in every hamlet, parish, and village, regularly and skilfully vaccinated by the appointment of competent persons for that important work: without some such system there can be no security. I will take four-fifths of this populous kingdom, and declare it to be my firm conviction that, for the last twelve years, vaccination has most decidedly lost ground; that, instead of increase of zeal, you will meet with careless indifference: in lieu of that enthusiasm and humane solicitude which at first characterized the application of this wonderful discovery, you will meet with a yawning spiritless apathy; that is, indeed, deeply to be deplored, and surely calls for a prompt and decisive remedy.

[The following extract, in allusion to an opinion expressed by Dr. Gregory in his essays on vaccination, republished in the first and second volumes of the *Journal of Foreign Medicine*, will be read with interest.]

Dr. Gregory appears to believe that a vesicle with areola never does exist as a local disease, and merely as such: now it is my opinion that this may be the case, and, indeed, that it is not very unfrequently so. I beg leave to transcribe, in illustration, a striking case of inoculated small-pox, published by the College of Physicians in 1785.

“Last spring I inoculated two children in one family. On the third day there was a slight inflammation around the places of incision; on the fifth day it was considerably increased, and the places felt hard upon being pressed by the finger. I saw them again on the seventh or eighth day; and then the inflammation was much increased, extending nearly to the breadth of half-a-crown. Upon my applying a gentle pressure to the inoculated places, matter issued out of them, with which, as it issued from the arms of both patients, I perfectly saturated a cotton thread. With this thread I inoculated nineteen persons, by first making a slight incision in their arms with a clean lancet, and then applying a small piece of the cotton thread, and a plaster to retain it upon the place, as is usual. Every one of these had a fever and eruption of pustules at a proper time. But the children from whom the matter was taken did not sicken, as was expected, and on the eleventh day the inflammation upon their arms was considerably abated; and two or three days after this there remained nothing but a dry scab. Agreeably to the general opinion of the faculty, I told the parents that their children were secure from future infection of the small-pox. They, however, insisted upon their being inoculated again, which was accordingly done in the arm of each. Contrary to my expectation, their arms began

again to be inflamed, and went on in the same manner as they had done before, till about the ninth or tenth day, when they sickened, had a smart fever for three days, and then an eruption of a considerable number of variolous pustules.

"This I aver to be true, how ill soever it may agree with any preconceived theory concerning infection; and the ignorance of what is obviously deducible from this fact has sometimes brought a discredit upon inoculation, for I know that there have been some instances where the inoculator, from the appearances upon the arm only has pronounced his patients safe from any future attack of the small-pox, and yet, some years afterwards, they have taken that disease in a natural way."

Reasoning from analogy, we, I think, may safely, and not improperly, assume that if it is proven that the variolous pustule has existed locally and purely so, that the vaccine vesicle may likewise exist as a local disease. This appears to me by no means gratuitous, but a fair and legitimate conclusion.

Deformity of the Thigh arising from Fracture cured by an Operation. By Professor RIECKE.

—A man fractured his left thigh by a fall from a height, and in consequence of improper treatment the limb became shortened nearly a foot, and could not be moved without exciting great pain. On examining the parts, Professor Riecke ascertained that the femur had been fractured transversely in its middle, and that the two fragments had passed each other, so that the extremity of the upper portion was felt immediately beneath the skin, while that of the lower was united to the superior fragment by a very irregular callus, at the distance of six or eight inches above the fracture. The thigh formed an arch, the convexity of which was turned outwards; the patient was unable to move without suffering the most violent pain, which subsided only when the leg was placed across the other. The Professor thought he could perceive a slight mobility between the two fragments, and it was this circumstance which induced him to perform the following operation:—An incision was made through the integuments from the great trochanter to the external condyle; the muscles were then divided, and the bone exposed; the callus being very solid, recourse was had to the saw, but the soft parts opposing an obstacle to the complete division of the callus, this part of the operation was finished by means of the chisel and mallet; he afterwards removed with the saw the extremity of the superior fragment, dressed the wound according to the method of Boyer, and applied Dzondi's machine for extension. Profuse suppuration followed, many pieces of bone were discharged, and eight weeks elapsed ere the patient was considered out of danger. The fragments appearing consolidated, and the knee somewhat chafed, the machine recommended by Mr. Charles Bell, in fractures of the thigh, was substituted; but when the wound had nearly cicatrized, it opened, to

give exit to a large fragment of necrosed bone, and the fracture being again found moveable, the bandage employed in the first instance was had recourse to, and continued during three months; it was not until eight months after the operation that the fracture was firmly united, and the patient discharged cured.—*Archives Générales de Médecine.*

Urinary Calculi.—M. Guéneau de Mussy communicated to the Académie Royale, the following curious instance of calculous affection. A man who had long had a large but indolent tumour in the right hypochondrium, ultimately died; on opening the body, a cyst was found as large as a child's head, formed at the expense of the inferior part of the right lobe of the liver, and extending to the right kidney, the superior part of which it had destroyed. The lateral parietes of the tumour were so weak that they broke when touched, and a large quantity of serum mixed with clots of a white caseiform matter, and enveloping three irregular calculi, were discharged. In what remained of the kidney, another calculus was found, covered with crystalline asperities, and presenting inequalities of greater or less depth, corresponding to the divisions of the calices and the pelvis. The calculi together, weighed about four ounces. No trace of carbonic acid or ammonia was found upon analysis; they appeared to be composed of phosphate of lime. The superior parietes of the tumour were formed by a lardaceous tissue; the liver above was of a deeper colour than natural, but healthy; the left kidney was sound, but contained several small, yellowish calculi.—*Arch. Gén. de Méd.*

Extirpation of a Cancerous Uterus.—A woman, æt. 30, who in her youth had always enjoyed good health, and menstruated regularly up to the age of 22 years, was affected, after having borne several children, with a slight leucorrhœa and hæmorrhoidal tumours, to which were added, subsequently to an abortion caused by an external injury, a prolapsus of the anterior parietes of the vagina, and retroversion of the uterus, which was twice treated successfully. After an accouchment, about fifteen months since, all the symptoms characteristic of scirrhus of the uterus made their appearance, and left no hope of cure. Dr. de Siebold calling to mind an analogous case, cured by an operation, resolved to attempt the extirpation of the uterus, which was performed on the 25th of July. The patient being placed in a suitable position, the vagina was separated from the uterus, which was fixed exteriorly by means of a thread traversing its vaginal portion, by the aid of the knife of Savigny; the broad and round ligaments were separated and divided; and finally, the uterus itself extirpated. The operation lasted twenty-five minutes, and not more than five or six ounces of blood were lost. Immediately afterwards the patient was seized with great mental depression, with great alteration of the features. Syncope supervened, with

hemorrhage, vomiting, cold extremities, and pain in the hypogastria; all the symptoms of acute inflammation of the abdomen developed themselves, and death took place on the 27th, preceded by convulsions.

On dissection, the peritoneum, ovaria, and intestines were found violently inflamed, and even gangrenous in some places; the lungs were filled with tubercles; the liver and spleen were healthy; none of the organs adjoining the uterus had been wounded in the operation. The uterus was indurated and scirrhus from its orifice to its fundus, and already destroyed in some places. (All. Rep. Jan. 1828.) *Vide de Schirro et Carcinomate Uteri adjectis tribus uteri extirpationis observationibus.* Berol. 1826, auctore Dr. Ed. de Sieböld.—*Journal des Progres, &c.*

Rupture of the Uterus and Passage of the Fœtus into the Bladder. By M. FERRÉS.—A woman, æt. 25, had an abortion in the commencement of utero-gestation, during the progress of which, rupture of the uterus and of the posterior part of the bladder taking place, the fœtus passed into the latter organ, and putrefied there. The woman was brought to the hospital, and several bones, mixed with putrid matter, were discharged. After the lapse of two months, however, the whole abdomen was attacked with gangrene, and the patient died. On making an incision into the abdomen, two inches below the umbilicus, where the tumour commenced, a great quantity of fœtid gas escaped; the bladder was ruptured in its superior portion, and on every side adherent to the neighbouring parts; the uterus was in its natural condition, but covered by a thick layer of coagulable lymph, which united it to the bladder; there was also much lymph effused among the abdominal viscera. A large lumbricus was found among the bones of the fœtus. It is to be regretted that the account of this interesting case is so imperfect.—*Archives Générales de Médecine.*

Analysis of Variolous Matter.—During the recent prevalence of eruptive diseases at Marseilles, it was observed that small-pox complicated with petechiæ was almost invariably fatal, while the disease in its simple form terminated favourably. With the view of ascertaining whether there was any difference in the variolous virus in the two cases, M. Roux conceived the idea of subjecting the matter of both to analysis. The following is a summary of the results as obtained by M. Trémolière:

Variolous Matter without Complication.—Colour yellowish, turbid, depositing on standing a grayish white precipitate; a peculiar nauseous animal taste; a loathsome disagreeable odour; oleaginous consistence; specific gravity = 1,031 \bar{a} +18,5 R, barometer 757,7. It furnished upon analysis, fibrine, mucus, hydrochlorate of soda, sulphate of potash, phosphate of lime, and water.

Variolous Matter complicated with Petechiæ.—This matter, when collected before death, had a very disagreeable, loathsome odour;

taken a few hours after death, its odour was almost insupportable; its consistence was more liquid, and it bore a considerable resemblance to sanious pus. It gave upon analysis, fibrine, mucus, hydrochlorate of soda, hydrocyanate of soda, sulphate of potash, phosphate of lime, and water. If the tests employed by M. Trémolière have occasioned no error in relation to the presence of the hydrocyanate of soda in this virus, this is the first instance of a salt of this kind having been detected in an animal fluid. M. Lassaigne has announced his intention of making an analysis of the same virus.—*Journal de Chimie, &c.*

On the Origin of the Plague.—In the *Révue Médicale*, M. Pariset brings forward a new opinion on the subject of embalming in Egypt. He endeavours to show, by statistical calculations, that the inhabitants of this country possessed no other means of protecting themselves against the injurious effluvia of putrid animal substances, and that it was, consequently, not an object of religion, as has hitherto been believed, but rather of medical policy; it consisted, originally, in salting the bodies with natron, with which the country abounds, and in afterwards drying them; when thus prepared, the bodies were deposited in places inaccessible to the inundation, and which were the better suited to this purpose, as being, from the same reason, steril. This was the original mode of embalming; the additional processes, which were gradually introduced, are to be regarded merely as the effect of luxury. According to M. Pariset, it appears from the most accurate inquiries, that in the fourth century of our era, the custom of embalming began to fall into disuse in Egypt; that the oriental plague did not show itself before the beginning of the sixth, and that the diseases, which are described by Greek authors, and in the Scriptures, evidently want the characteristic symptoms of the plague. Before the sixth century, Egypt had, for nearly three thousand years, been one of the most healthy countries in the world; but the Christian religion having been introduced into Egypt, the custom of embalming was looked upon as a profane ceremony, and during the fifth and sixth centuries it was, according to Abbé Fleury's statement, formally prohibited, and the present mode of inhumation introduced. In the year 542, or 98 years before the conquest of Egypt by the Arabians, the first and most terrible epidemic appeared. From the coincidence of these historical facts, it seems very likely that the interment of the dead, (in a country which, after a yearly inundation of four months, is exposed to an intense heat,) and the subsequent putrid fermentation of animal matter, were the original causes of the plague. Humidity, a certain degree of atmospheric heat, and animal matter, are, according to M. Pariset, the conditions necessary for the development of the plague. In no country of the world do these circumstances concur in such an eminent degree, as in Egypt; and thus it is very easily

explained, why this formidable disease should have originated in it. From thence it was carried into other countries; but in the latter the disease is not so terrible, nor do the conditions exist there necessary for the spontaneous production of the plague. As a strong proof of the former, it may be mentioned, that at Smyrna, ships from Constantinople are never put into quarantine, while those from Egypt always are so. M. Pariset maintains, that the best, if not the only means of arresting the further progress of the plague, is the re-introduction of embalming in Egypt, to the extent to which it was formerly adopted.

We conclude this notice with stating, that M. Pariset left Paris, at the end of last month, for Marseilles, in order to examine the epidemic now prevailing at this place, where he will, in company with M. Champollion and several distinguished physicians, proceed to Egypt to make further inquiries into the nature, &c. of the plague—*Lancet*.

New Operation proposed for the Stone.—The operation in common use at the Hôtel Dieu is the bilateral, a modification of that of Celsus, in which the prostate is cut obliquely downwards from the neck of the bladder on both sides. The incision in the prostate is thus twice the size of that in the ordinary lateral operation: it will therefore give exit to a larger stone, and render a smaller opening into the bladder necessary for this purpose. Yet cases have occurred where considerable effort has still been required for the extraction of large calculi, and where the death of the patient has been occasioned by consequent inflammation and suppuration within the pelvis. In these cases, notwithstanding the incision was made to its fullest extent in these two directions above named, *the gland was found to be lacerated in a stellated form*. It is presumed, then, that if two other incisions be made, one on each side obliquely upwards, the mischief of laceration may be averted.

Dr. Vidal, who suggests the quadrilateral incision, considers it to be a point of extreme importance not to cut beyond the margin of the gland into the bladder, and that the neglect of this precaution is the prolific source of those urinary fistulæ and suppurations which follow the operation.

Where the incision is confined to the prostate, and unaccompanied by laceration or contusion, the wounded portions of the gland, being swollen after the operation, are thereby brought into contact, and the urine, instead of escaping through the wound into the pelvis, passes through its natural channel. *Not so when the bladder has been wounded*, or when the opening has been made by lacerations or by the gorget, or when portions of the gland have been brought away by calculi studded by asperities on the surface.—*London Med. & Phys. Journal*.

Another Operation for the Stone.—Mention is also made of an operation by Balardini, en-

titled "*la taille mediano*," or median incision, in the raphe of the perineum, extending from the bulb of the urethra to the sphincter ani. The bistoury of the operator is then passed into the bladder along the groove of the staff, and, by cutting its way out, divides the neck of the bladder, the prostate, and the membranous portion of the urethra. The operation is said to be effected with the greatest facility, and to be exempt from the numerous inconveniences attendant on other methods. As no vessels of consequence can be wounded, hemorrhagy may be certainly avoided. The rectum has never been cut in a single instance. The opening into the bladder is the shortest course that can be taken, and admits of greater dilatation than that which is made by any other method.

In comparison with the recto-vesical operation, it may be remarked, that, as no communication between the bladder and rectum takes place, the passage of urine into the intestine, or feces into the bladder, can never occur. This frequently happens in the recto-vesical operation, since, in thirty cases, five have preserved incurable fistulæ.—*Ibid*.

Practical Queries.—A female, aged thirty, generally healthy, and the mother of four children, after easy and natural labours became pregnant early in the present year. Towards the end of August, she was seized with shivering, sickness, and abdominal pains, resembling those of parturition. Her medical assistant was called in during the night, and remained several hours in attendance; when, finding that her pains were spurious, he recommended the recumbent posture, and exhibited an anodyne and aperient medicine; after which the pains soon subsided. Eight days subsequently, true parturient pains commenced; and, after an easy, short, and natural labour, she was put to bed of a daughter. This child was understood to have been born in the eighth month, but in all respects well formed, and apparently healthy. The right arm, however, was from the first in a state of mortification, from the points of the fingers to a little above the elbow. On the second day after its birth, it was agreed, in consultation, to wait till a complete separation, by sloughing, *down to the bone*, should take place, before removing the gangrenous arm. At the end of eighteen days from its birth, the child had not lost strength or flesh in any remarkable degree, but perfect separation between the sound and sphacelated parts having taken place, removal of the arm was agreed on. Now, on this subject two questions arise: *first*, at the time of the spurious pains, did the circumstance of disease of the arm begin, and what could have been the cause of this unusual phenomenon? *second*, on a line of separation between the mortified and living parts having been established, by the second or third day after birth, and the child being healthy, whether ought the arm to have been *then* amputated or left to the efforts of nature?—*Lon. Med. & Surg. Journal*.

Absence of the Septum Ventriculorum Cordis.

—Fr. S., ætat. 24, subject from his infancy to violent beating of the heart, was, in 1820, affected with pneumonia, in consequence of which, the palpitation considerably increased, and even brought on frequent attacks of suffocation, in which he found no relief, except by pressing the chest strongly against some resistant body. He was treated in different ways, but without any success; an incipient hæmorrhoidal discharge seemed for some time to mitigate the symptoms, but the affection of the heart, and the difficulty of breathing, presently increased anew; the patient was obliged to remain completely still; anasarca, and at last ascites, came on; the heart beat most violently, each pulsation communicating an oscillatory movement to the left side of the chest; the pulse was ninety, equal and regular; respiration stertorous, and the voice scarcely audible. At the patient's request he was tapped; but the operation afforded him only a transient relief, and he expired a few days afterwards.

On examining the body, the pericardium was found of an extraordinary size, and covering almost the whole anterior surface of the lungs. The cavity of the chest was filled by several pints of a bloody serum; the lungs were strongly compressed against the ribs, but not altered in structure. The pericardium was in its whole extent adherent to the heart, the cavities of which were filled with black grumous blood; its volume and parietes were three times larger than usual; the septum ventriculorum was totally wanting, not the slightest trace of it could be found. The origin of the vessels was natural, the apertures of the veins were slightly enlarged, and the aorta was remarkably flaccid. The other organs were found in a healthy state.—*Hufeland's Journal.*

That this was a case of malformation of the heart, there seems to be no doubt, as a subsequent destruction of the septum can hardly be supposed. It strikingly confirms Meckel's most ingenious theory, that the greatest number of monstrosities, (all except those caused by excess of organs and hermaphroditism,) are founded on a retarded formation of the organs; they remain in one of their primitive conditions, without proceeding to their further development. This is evidently shown by the malformations of the heart, the series of which, at the same time, exhibits the centre of circulation in all the different conditions, which mark the different classes of animals, from crustacea to mammalia, and thus distinctly represents the gradual progression through the different stages of animal perfection. We need hardly mention the striking analogy of the heart in the above reported case, and in the genus batrachii.—*Lancet.*

Nymphomania.—At the sitting of the Royal Academy of Medicine of the 1st September, M. Lisfranc, referring to a case of nymphomania cured by cauterization, took occasion to remark that it is incorrect to consider all cases of

nymphomania and hysteria as of a nervous nature; these affections often depending upon an inflammatory condition of the neck of the uterus, or on a turgescient state or hypertrophy of the body of that viscus. He related the case of a young lady who was affected with nymphomania, evidently the result of an inflammatory attack, and which was removed by antiphlogistic treatment, such as local bleedings, warm hip baths, and injections of half liquid poultices of linseed: these were retained in the vagina by means of a plug of charpie, and were renewed hourly. M. Lisfranc reckons about ten cases of these affections cured by the same means; nevertheless, he thinks that when the inflammatory symptoms have been removed by proper means, cauterization may be beneficial.—*La Clinique.*

Chemical Characters of Strychnine.—In a late number of the *Journal Général*, &c., M. Caventou rectifies an error into which MM. Orfila and Lessuer have fallen, in their *Memoir on the Detection of Poisonous Substances in Putrefied Animal Matter*,* relative to the above article. Pure strychnine, he observes, does not *redden by the action of nitric acid*; it only presents this phenomenon when it contains a small quantity of brucine, which ordinarily accompanies it in the *nux vomica*, and even in the bean of St. Ignatius, or a yellow colouring matter which he has hitherto found only in the *upas tieute*.

New Method for Studying the Cavity of the Bony Labyrinth; by Prof. MECKEL.—Place the petrous portion of the temporal bone in boiling wax, then dissolve the calcareous phosphate of the bone, by means of dilute muriatic acid; in this manner a preparation in wax is obtained, which shows very well the disposition of the cochlea and semicircular canals, and even the distribution of the auditory nerves in the foramina of the *scala* of the cochlea. This procedure is especially recommended in relation to comparative anatomy. The anatomical collection at Berne contains a series of interesting preparations made in this manner.—*Bull. des Sciences Med.*

On the Fermentation of Opium applied to the Extraction of Morphine; by M. Blondeau.—From some experiments made by this gentleman, he concludes, that very nearly the entire quantity of morphine existing in opium may be extracted, after the other elements have been decomposed or segregated, by means of fermentation. He states that he has by this means obtained fourteen drachms of morphine from a pound of opium.—*Revue Medicale.*

Internal change in the Position of Particles in Solids.—If a certain quantity of the prismatic crystals of sulphate of nickel be enclosed in a bottle and then exposed to the heat of

* Vide *Journal of Foreign Medicine*, vol. ii. p. 336.

the sun, it frequently happens that though their external form is preserved, so that they may be measured, yet if broken they are found formed of a multitude of octoëdral crystals with square bases. This change requires two or three days. These crystals by analysis appeared to contain 2.93 parts per cent. less of water, than the prismatic salt containing 7 proportionals. This is another striking instance of the internal motions of the particles of solid bodies.—MITSCHERLICH. *Ann. de Chimie*, xxxviii. 65.

New preparation of Magnesia.—A preparation of magnesia, called concentrated magnesia, is being introduced into London; it is said to be prepared by precipitating the magnesia from the solution of its sulphate by means of pure potass and immediately drying it, by which process pure magnesia is procured by a shorter method than hitherto employed, and has the advantageous property of occupying much less space than magnesia in common use; it is at the same time more convenient, being without that exceeding lightness possessed by the old forms.—*Lond. Med. and Surg. Jour.*

New method of preserving Anatomical Preparations.—A cheap durable process, and one which clearly displays minute structure, has been published by Dr. Davy; it is simply sulphurous acid, which may be prepared in a manner equally economical and easy, by burning sulphur matches over water in any appropriate vessel, agitating the water when the match ceases to burn; when the water is sufficiently impregnated with the acid gas, it should be filtered, to render it clear and transparent. The best kind of match for this purpose is that which is used in Italy, made by dipping cotton-thread in melted sulphur.—*Ed. Med. Chir. Trans.* vol. iii.

Method of preventing the evaporation of Spirits.—A mode of preventing evaporation very applicable to anatomical preparations is simply to cover the surface with a stratum of oil of almonds.—*Lond. Med. Gazette.*

Solanum Dulcamara used externally.—The juice of the ripe berries of the solanum dulcamara, or woody nightshade, is said to possess much efficacy in cutaneous diseases of the scalp, such as the different forms of porrigo; it is used mixed with common white ointment, and applied night and morning.—*Lond. Med. and Surg. Jour.*

Hyosciamus Niger.—In the *Bulletin des Sciences Médicales* for July, are recorded some experiments made with the extract of hyosciamus, prepared from the young leaves, that is, from leaves of the first year, six grains of which in a dose produced no sensible effect in an adult; one grain of good extract will, in most cases, produce a decided effect: three or four grains will bring on very unpleasant sensations in the head, with dilatation of the pupil. We know that most of the extract sold

in town is prepared from the young leaves, but as some is also prepared at the proper season from mature leaves, that is, in June, great inequality of power must exist in the preparations. The want of uniformity in preparations from indigenous medicines is as criminal as it easily rectified. A little attention to the natural history of the articles, and due care in the mode of preparation, would ensure accuracy any uniformity.—*Lond. Med. and Surg. Jour.*

Medicinal Properties of the Bark of the Root of Ricinus Communis.—The bark of the root of the ricinus communis is a powerful purgative, and in conjunction with chillies and tobacco leaves, it forms an excellent remedy for gripes in horses; it is thus used in the West Indies.—*Medical Botany.*

New Publications.

Essai sur les Fièvres, remittentes et intermittentes, des pays marécageux tempérés; par Frédérick Nepple, médecin de l'hôpital de Montluel, etc. 8vo. pp. 307.

Recherches sur les différentes maladies qu'on appelle fièvre jaune; par J. A. Rochoux. 8vo. pp. 637.

Sperimenti sui fascicoli del midollo spinale; by Rolando. Turin, 1828. pp. 68.

Mélanges de Médecine et de Chirurgie; par M. Mothe, ancien chirurgien de l'hôtel Dieu de Lyon, etc. Tome ii. 8vo. pp. 428.

Nouvelle méthode naturelle chimique, ou disposition des corps simples, et composés, propre à rendre l'étude de cette science plus facile et plus courte. Par Ch. Pauquy, D.M.P.

De l'Anatomie Pathologique, considérée sous ses vrais rapports avec la science des maladies; par F. Ribes, D.M. etc.

Chemical Re-Agents, or Tests, and their Application. Originally by F. Accum. Improved by W. Maugham.

A Manual of Midwifery, &c. By Michael Ryan, M. D.

An Essay on a New Mode of Treatment for Diseased Joints and the Non-Union of Fracture. By Thomas Buchanan, A.M. &c.

Observations on the Nature and Treatment of Cholera. By A. T. Christie, M. D.

A General Description of the Bones of the Skeleton, intended for Students. By Henry Kemp Randell.

A Stethoscopic Chart, in which may be seen, at one View, the Application of Auscultation and Percussion to the Diagnosis of Thoracic Diseases, &c. &c. By S. E. Hopkins.

Literary Intelligence.

Dr. Richard Bright, of Guy's Hospital, has been for some time engaged in preparing for the press, a second volume of his Medical Reports.

Dr. Forster is Printing, at the Chelmsford Press, an Essay on some Remarkable Effects from Change of Air on the Intermittent Fever of that County; the result of many years' research.